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CONSISTENCY AND CONGRUENCY IN LEVELS OF OCCUPATIONAL ASPIRATION AND EXPECTATION OF STUDENTS IN SELECTED SINGLE ENTERPRISE COMMUNITIES

by

© DOREEN L. SMITH

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
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DEPARTMENT OF SOCIOLOGY

EDMONTON, ALBERTA
SPRING, 1980

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled .... Consistency and Congruency in Levels of Occupational Aspiration and Expectation of Students in Selected Single Enterprise Communities submitted by Doreen Lucille Smith in partial fulfilment of the requirements for the degree of Doctor of Philosophy.

Charles W Hobart
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Date ...April.14,.1980........

ABSTRACT

The purpose of the present research was twofold. First, it attempted to examine the interplay between levels of aspiration and expectation (consistency of choices) and identify some of the factors affecting aspiration-expectation interrelation. Second, it endeavored to follow levels of occupational expectation over time and levels of occupational aspiration over time (congruency of choices) and discern factors associated with them.

A review of existing literature and research revealed that scant attention has been paid to the determinants of aspiration-expectation discrepancy. Likewise, longitudinal data are scarce. Initially, studies attempting to identify correlates of adolescents' achievement orientations were surveyed; then, the research on aspirational and expectational stability and change was reviewed. The general studies indicated several categories of factors (e.g., self-related factors, family-related factors, school-related factors, community-related factors, etc.) capable of affecting vocational decision-making. The more specific research suggested change, rather than stability, tends to characterize adolescent educational and occupational choice patterns.

To gain insight into the phenomena under study and to focus the phases of the problem being investigated, a conceptual framework was formulated. This conceptual orientation was addressed to the resolution of two theoretical issues pertaining to the structure and process of occupational decision-making. In essence, the conceptualization contends that the way in which an adolescent integrates his occupational preferences (i.e., aspirations) with the practical plans he has with respect to an occupation (i.e., expectations) at one point in time (i.e., consistency) and the manner in which he brings them together over time (i.e., congruency) are determined by certain subjective and objective factors, which are amenable to empirical examination and analysis. The anticipated operation of these factors was spelled out more explicitly with the presentation of twenty-two hypotheses.

The data, required to test the hypotheses, were gathered by means of questionnaires administered to students in Grade 10 (1969) and again in Grade 12 (1971). The requisite information was available for 262 students (132 males, 130 females) residing in the five single enterprise communities of Flin Flon, Lynn Lake, Pine Falls and Thompson, Manitoba and Red Lake, Ontario.

The statistical technique employed in testing the hypothesized relationships was multiple regression analysis. In addition, an extension of the analysis was included to provide information on interrelationships among the independent variables.

The results revealed that the boys and girls had moderately consistent levels of occupational aspiration and expectation at both time points and moderately congruent levels of occupational expectation and levels of occupational aspiration over time.

One of the most important conclusions drawn from the various analyses of the students' levels of occupational consistency and congruency was that they were responsive to a number of influences, including self-related, family-related, school-related and community-related factors, but no single influence dominated. Although the proportions of variance in the students' levels of occupational consistency and congruency explained by the selected background factors was not as large as expected, it was a reasonable amount considering the uniqueness of the dependent variables in

the context of previous research. Moreover, the extension of the analysis uncovered relationships among the achievement variables that paralleled those reported in past studies.

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Sincere appreciation is expressed to the following people. To Dr. Charles W. Hobart, my adviser, for the guidance and encouragement he has given me throughout my program of studies at the University of Alberta. To the members of my committee, Dr. T. Hartnagel, Dr. P. Krishnan, Dr. L. Larson and Dr. P. Baccus, for their constructive comments and criticisms at various stages of the project. To Dr. Archibald O. Haller, University of Wisconsin, for his insightful questions, which required me to clarify my thinking on some important issues.

I am grateful to Dr. G. Albert Kristjanson, University of Manitoba, who initiated my involvement with this area of research and has continued to express interest in my career and the Center for Settlement Studies, University of Manitoba, under whose auspices the research was conducted. The co-operation of the superintendents, principals and teachers of the high schools involved was greatly appreciated. My special thanks go to the students who were kind enough to respond to the questionnaires. I am indebted to Mrs. Johan Dick for her meticulous typing of the dissertation.

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Chapter I

INTRODUCTION

Inasmuch as society stresses the intricate interrelationship between what one is and what one does; and, inasmuch as work continues to be one of the major mediums for self-expression, it follows that knowing what one can do facilitates knowing who one is. From this perspective, an adolescent's career decision (specifically the crystallization of values, assessment of opportunities and sorting of aspirations and expectations involved) may be regarded as a significant step in the direction of self-definition.

However, several writers and global analysts have suggested that society is currently undergoing rapid, dramatic changes. References to our "temporary society" (Bennis and Slater, 1968), to our "high-transcience world" (Toffler, 1975: 14) or, more poignant still, to our "age of transition and sudden change" (McNeil, 1972: 314) surface repeatedly. A survey of the literature reveals general agreement that in contemporary society crystallization of vocational interests and aspirations is difficult to accomplish until some time after high school graduation. It has been noted that eighth or ninth grade students do not typically make appropriate vocational choices (e.g., Super, 1957: Holden, 1961). To some these findings suggest that there is little or no direct benefit to be gained by vocational planning during adolescence. On the other hand, it is necessary to note that educational choices which precede entrance to certain occupations are fairly well defined. For example, a student whose goal is among the professions must decide in favor of certain subjects near the beginning of his secondary education. The current practice of incorporating a student's stated occupational preferences into the planning of his secondary and post-secondary educational programs and prediction of possible career alternatives is premised to a considerable extent upon the consistency and congruency of these expressed choices during the high school period. Discrepancy and variability in choices tend to impede effective long range planning and accurate prediction. Contemporary youth appear to be in a predicament. On the one hand, they are caught in the "roaring current" of societal change; on the other hand, they are required to formulate fairly consistent career plans. How are adolescents coping with this dilemma? Are their occupational plans subject to change? If so, what kinds of changes are being made? If not, what factors are conducive to the formulation of stable goals? Are there any characteristics associated with consistency and congruency in career choice? Questions such as these served as catalysts for the present research.

Statement of the Problem

This dissertation focuses on the structure and process of the occupational decisions of 262 students registered in high schools in five single enterprise communities (Flin Flon, Lynn Lake, Pine Falls and Thompson, Manitoba and Red Lake, Ontario) over a two year period (i.e., Grade 10 to Grade 12).

Structurally, it attempts to investigate the interplay between levels of aspiration and expectation (consistency of choices) and identify some of the factors affecting aspiration-expectation interaction. With respect to process, it endeavors to examine the interplay between levels of aspiration over time and levels of expectation over time (congruency of choices) and isolate some of the factors associated with the stability and change of students' levels of occupational aspiration and expectation (see Figure 1).

In essence, the central premise animating this investigation contends that the way in which an adolescent integrates his occupational preferences (i.e., aspirations) with the practical plans he has with respect to an occupation (i.e.,expectations) at one point in time (i.e., consistency) and the manner in which he brings them together over time (i.e., congruency) are determined by certain subjective and objective factors, which are amenable to examination and analysis.

Background of the Study

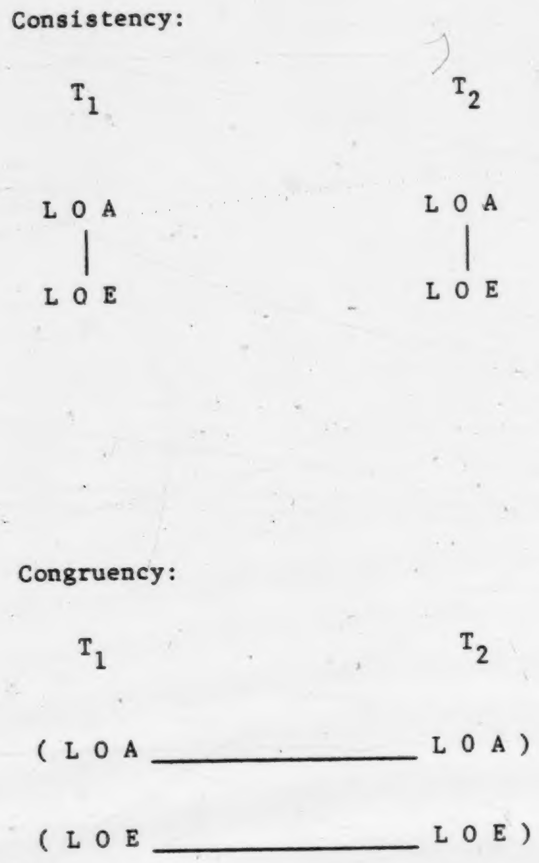
This specific study was part of a larger project initiated by Dr. G. Albert Kristjanson and Dr. Lawrence F. Douglas of the Department of Sociology, University of Manitoba for the purpose of examining the role of the educational system and the aspirations of high school students in five selected communities.[1] The initial phase of the project (May 1, 1969 to April 30, 1970) was conducted in close cooperation with Dr. John W. Peach of the Faculty of Education, University of Manitoba. The writer was responsible for the final phase of the overall study (May 1, 1970 to April 30, 1971), which focused on delineating familial influences associated with the educational and occupational values, opportunity orientations, aspirations and expectations of twelfth grade students in five single enterprise communities (Smith, 1972).

---

[1] The project proposal is contained in the Second Annual Report - 1969 of The Center for Settlement Studies, The University of Manitoba: 66 and a progress report is contained in the Third Annual Report - 1970 of The Center for Settlement Studies, The University of Manitoba: 85.

FIGURE 1

Diagrammatic Representation of the Problem *


Consistency:
T1
T2
LOA
LOE
LOA
LOE
Congruency:
T1
T2
(LOA
LOA)
(LOE
LOE)

* T_1 = Time One

T_2 = Time Two

LOA = Level of Occupational Aspiration

LOE = Level of Occupational Expectation

Significance of the Study

Theoretical:

It is hoped that the formulation of the conceptual framework itself, specifically aimed at addressing and resolving two issues (i.e., the aspiration-expectation distinction and the event-process debate) plaguing current theoretical frameworks on occupational choice, would be of value with respect to theory construction. In addition, it is anticipated that the results of the present study will provide insights into fundamental assumptions (e.g., relating to the consistency of choices and the process depiction) that have not been subject to empirical scrutiny before.

Methodological:

Panel studies, those in which repeated measurements are made on the same subjects at two or more points in time, are few. Hence, inferences regarding the processes involved in the generation of aspirations tend to be based on cross-sectional data. It is necessary to note that as the search for antecedent conditions continues, scant attention is paid to the direct and systematic delineation of the process itself. The present study provides measures of occupational aspiration and expectation levels at two points in time. It is suggested that the present study covers a short (Grade 10 to Grade 12) but important part of the vocational life of the students.

The standard procedure employed in investigations regarding changes in occupational choice requires students to state (written or verbally) their occupational choice on two separate occasions. The percentage of equivalent choices is considered to be a measure of stability of choice.

In some studies equivalence has been restricted to specific occupations; in others, occupations have been classified into various groups and only changes from one group to another have been considered. It is necessary to note that conclusions can be influenced to a large degree by the procedure used. As Strong (1952: 677) points out:

> If all business occupations are grouped as 'business' there will be much greater permanence reported than if specific business occupations are grouped into ten classes, and still greater permanency than if they are all considered separately.

The data gathered in the present study permits utilization of traditional procedures wherein permanency is measured on an all or none basis (i.e., there is either no change or a change in choice) but, in addition, the scores provided by the Occupational Aspiration Scale (Miller and Haller, 1964) enable one to take gradations into account.

Practical:

It is to be noted that the communities which served as data sources differed decidedly, with respect to economic base (single enterprise) and geographical location (relatively isolated), from the contexts in which the majority of past studies were conducted. Thus, the empirical data this study provides on the students' educational and occupational values, opportunity orientations and occupational aspirations and expectations may prove useful for educators and other professionals engaged in formulating educational policies or planning vocational guidance programs especially for students residing in single enterprise communities. In addition, it is anticipated that individuals faced with the task of designing future resource frontier communities could glean background information (for example, on perceptions of educational opportunities or occupational preferences) pertinent to their purposes.

Scope of the Study

The scope of the present study is more extensive than several previous research endeavors and, at the same time, more restricted than others. The scope of this study is more extensive in that an attempt is made to determine whether educational and occupational values and opportunity orientations are associated with the stability or instability of occupational aspirations and expectations. The majority of existing studies concentrate on only one of the above mentioned variables. Occasionally two (for example: educational values and beliefs in opportunity _or_ occupational values and occupational choices) are analyzed in the same study (Hyman, 1953; Miller, 1956; Rosen, 1956; Rosenberg, 1957; Schwarzweller, 1959 and 1960; Simpson and Simpson, 1960 and 1962a).

Although few would challenge Hyman's (1953: 434) contention that "the goals of all individuals are governed to some extent by the appraisal of reality", research designed to discern subjects' subjective perceptions of their positions in the opportunity structure is scarce. The studies reported by Hyman (1953), Landis, Dinitz and Reckless (1963) and Mizruchi (1964) are notable exceptions.

> In Canada today there is a continuing debate concerning the nature and extent of opportunity in our increasingly industrialized society, and the social, psychological, and economic factors associated with its availability (Blishen, 1970: 110).

As well as examining values, aspirations and expectations, this study endeavors to elicit the respondents' appraisals of their educational and occupational opportunities.

Previous research with respect to familial influences on students' educational and occupational achievement orientations tends to focus on objective background factors (for example: socio-economic status, parental educational levels and size of community of residence) or subjective factors (for example: parental influence in the form of values, standards of excellence, expectations and encouragement). The present study considers the impact of both objective and subjective family factors.

In summary, this study is more extensive in scope than a number of previous endeavors in that it attempts to delineate associations between values, opportunity orientations, aspirations and expectations; and it examines subjective, as well as objective, familial influences. On the other hand, this study restricts its scope to the occupational sphere, as opposed to a general level of analysis exemplified by attempts to index the global concepts of "ambition" and "achievement" (Turner, 1956; 1964a and 1964b; Rosen, 1956 and 1959; Rosenberg, 1957; Strodtbeck, 1958; Mizruchi, 1964; Kahl, 1965; Scanzoni, 1967; Lawlor, 1970).

Organization of the Thesis

The problem to be dealt with in this thesis was introduced in Chapter I and its nature described. The problem was placed into perspective with respect to the aims of the larger project of which it was a part and its scope delineated. Furthermore, it was suggested that the study has significance not only theoretically and methodologically, but from a practical point of view as well.

Chapter II contains a review of relevant literature. An attempt is made to point out the consistencies and inconsistencies among the results of past studies. Dominant trends are indicated.

Chapter III formulates the theoretical framework used to gain insight into the phenomena under study and presents the general hypotheses guiding the investigation.

Chapter IV presents information on the construction and administration of the research instruments and the operationalization and measurement of the independent and dependent variables. In addition, the method of analysis is outlined.

In Chapter V the main findings of the study are presented and discussed. Finally, in Chapter VI, salient conclusions are stated and suggestions for future research are advanced.

Chapter II

REVIEW OF THE LITERATURE

The manner in which adolescents decide on the education and occupation suitable for themselves has been the focus of discussion in numerous studies prior to and during the last decade (Kuvlesky and Ohlendorf, 1965); Kuvlesky and Reynolds, 1970). The following review of research findings initially considers studies which have attempted to identify the correlates of adolescents' achievement orientations then concentrates, more explicitly, on pertinent studies of aspirational and expectational stability and change.

General Overview

For some time now sociologists have been examining a variety of socio-cultural characteristics and their relation to educational and occupational choices in an attempt to delineate some of the sources of influence upon the decision-making individual. The typical research procedure requires that adolescents (usually high school students) state their educational and/or occupational goals. These statements are subsequently analyzed in terms of the socio-economic status level of the choice made. The main concern of this research tradition tends to be with level of occupational aspiration or the types and status of occupations to which youth with different social characteristics aspire.

The literature is full of attempts to determine what factors go into making a vocational choice and the results point to the apparent existence of a multi-dimensional picture. Some of the factors that seem to affect this process are self-concepts (Super, 1951 and 1957), stated interests (Korn, 1968: 219), aptitudes (Holden, 1961: 36-41), values (e.g., security, career satisfaction, prestige, monetary rewards, etc., Miller, 1956: 246), sex differences, school activities, socio-economic status and parental education and encouragement. There seem to be certain research findings on which social scientists are now converging.

One of the most consistently replicated findings is the positive relationship between levels of educational and occupational aspiration and expectation (especially expectation) and the socio-economic status of the adolescent's family (Kuvlesky and Ohlendorf, 1965). Several studies emanating from the "Wisconsin school" support the proposition that the higher the socio-economic status of the student the greater his or her level of educational and occupational aspiration (Sewell, 1964; Sewell and Armer, 1966; Sewell and Shah, 1968a and 1968b; Sewell, Haller and Portes, 1969; Sewell, Haller and Ohlendorf, 1970). Nor is this the only body of literature examining this relation. Canadian researchers have reported similar trends (Forcese and Siemens, 1965; Pavalko and Bishop, 1966; Breton and McDonald, 1967; Breton, 1972).

In essence, it may be stated that the initial location of an adolescent in the stratification system is not dependent upon his personal achievements, but is ascribed on the basis of his parents' status. Students from lower socio-economic families, by definition, are faced with social and financial disadvantages which could affect the amount and quality of education available to them and thus restrict the occupational alternatives from which they may choose (to the extent that educational and occupational achievement are related). A family also provides a framework for the formulation of values and assessment of opportunities and, as such, its socio-economic status could influence a youth's orientation toward society, in general, and the educational and occupational spheres, in particular. In addition, a family's position in the social structure could affect its ability to provide vocationally relevant experience and information for its members.

The development of the literature in this area is characterized by increasingly complex attempts to elaborate the relationship between socio-economic status and educational and occupational aspirations (Sewell, Haller and Straus, 1957: 68; Kristjanson, 1967; Sewell and Shah, 1968a).

The majority of studies reviewed concur with respect to the suggestion that children of well educated parents have higher aspirations than children of poorly educated parents (Herriott, 1963: 159). Several possible explanations for the existence of such a relationship have been advanced. For one thing, the educational example set by the parents apparently affects the educational aspirations and plans of their children. Krauss (1964) has suggested that any college experience on the part of working class parents is particularly relevant in this respect.

> Working-class parents who have attended college have not only been exposed to middle-class values that influence their children to seek further schooling, but in addition their having gone to college, even for a limited time, may suggest to their offspring that such aspirations are not unreasonable (Krauss, 1964: 871).

Having demonstrated that advanced education is attainable, the parent may serve as a role model for his son or daughter. In support of his contention Krauss (1964: 871) cites data indicating that in working class families in which the father had college training, 61 percent of the children planned to obtain higher education; in contrast, only 35 percent of the youngsters whose fathers did not complete high school planned to attend college.

It has been suggested that differences in educational success could be due to differences in educational sophistication (Brookover and Gottlieb, 1963: 6). Parents who have attended university or taken technical or vocational training after high school have an insight into how centers of higher education operate and can provide their children with practical information (for example: about entrance requirements, application forms, etc.). In addition, a parent's educational level could be an indicator of his familiarity with the requirements of various occupational roles and hence, could affect the type of advice offered to his children when they are formulating their occupational preferences. As pointed out by Sharp and Kristjanson (1966: 18), parental education probably reflects both the student's knowledge of occupational alternatives and the manner in which he evaluates them.

Frequently it has been inferred that if the educational and occupational achievements of family members are relatively low the children in these families could not be expected to have high educational or occupational aspirations. Past studies, however, have shown that parents who are dissatisfied with their own educational or occupational attainments tend to project their ambitions onto their children and consequently try to motivate them to achieve (Kahl, 1953: 186-203; Perrucci, 1967: 134; Sewell and Shah, 1968b: 192). Thus, it may be expected that parents' educational levels, whether high or low, exert some influence on their children's aspirations and expectations.

Research evidence attesting to the importance of the parental push toward high education and occupational achievement is quite prevalent. Several early studies report relationships between perceived parental encouragement and students' levels of aspiration (e.g., Davis, 1941: 353; Duvall, 1946: 202; Aberle and Naegele, 1952: 370). Much subsequent research is directed toward understanding the socio-psychological variables (e.g., parental encouragement) that temper the influence of objective social structural settings (Kahl, 1953; Bordua, 1960; Burchinal, 1961; Simpson, 1962; Sewell and Shah, 1968a).

In his study of the relationships between the aspiration levels and the family backgrounds of a selected sample of Manitoba students, Siemens (1965: 68-69) found support for his hypothesis that the educational and occupational levels of high school boys and girls increase with increasing strength of fathers' and mothers' encouragement for continuing education. Two subsequent analyses of the same raw data revealed similar results (Sharp and Kristjanson, 1966: 19; Kristjanson, 1967: 46).

Gottlieb, Reeves and Tenhouten (1966) found evidence that adolescents choose as referents, in the area of occupational goals, those who are perceived as having the desire and ability to help the adolescent attain his goals. The fact that parents seem to exert more influence upon the vocational decisions of adolescents than upon decisions of other kinds has been interpreted by Soloman (1961: 393-395) and Brittain (1963: 385-390) in terms of the special competence of adults in the vocational realm. Similarly, Smith's (1970: 334) findings suggest that the adolescent's belief in the parent's possession of useful knowledge may provide the father or mother with a potential for educational influence upon the adolescent. Also, it has been shown that the higher the aspirations that parents have for their children, the higher their children's aspirations tend to be (Turner, 1962; Bell, 1963; Breton, 1972; Williams, 1972).

The studies cited in the preceding paragraphs are indicative of the considerable attention that has been directed toward discerning the degree to which children perceive their parents as encouraging or even pressuring them to have high educational and occupational goals. For the most part, researchers have reported positive relationships between perceived parental encouragement and students' levels of educational and occupational aspiration and, on the basis of their findings, have suggested that parental interest and expectations (whether explicitly expressed or merely implied) provide the impetus necessary for the development of a child's motivation to achieve.

In addition to the transmission of aspirations from parents to offspring, there is evidence that other variables such as family size, birth order and family decision-making dynamics are related to the formulation of educational plans. Family size and educational intentions appear to be negatively related even when socio-economic status is controlled; oldest and only children appear to have higher educational aspirations than other siblings and student participation in family decisions is positively related to educational aspirations even when socio-economic status, mental ability and family size are controlled (Breton, 1972).

In sum, several authors have proposed that the family is the primary source of highly enduring attitudes and values that are reflected in an adolescent's aspirations. However, there are those who challenge this contention and assert that the parents' influence decreases as the adolescent grows older, while the influence of friends augments. Proponents of this point of view suggest that peer, rather than parental, influences predominate during the transition period of adolescence. Coleman (1960: 337), for example, suggests that economic and educational changes in society have fostered the emergence of adolescent subcultures " . . . with values and activities quite distinct from those of the adult society." It appears logical to assume that adolescents' values and achievement motivations are influenced by their associations in friendship groups as well as by the interactions they experience within the family milieu. Researchers have documented positive relationships between peer influence and educational and occupational aspirations (Haller and Butterworth, 1960; Coleman, 1960 and 1961; Alexander and Campbell, 1964; McDill and Coleman, 1964; Duncan, Haller and Portes, 1968).

On the other hand, some writers take exception to the "hydraulic" view adopted by many researchers regarding the relative influence of parents and peers, which assumes that the greater the influence of one, the less the influence of the other. There is evidence to the effect that an increasing orientation toward peers is not necessarily accompanied by a decreasing orientation toward parents. Regarding educational plans, for example, Kandel and Lesser (1969: 214) found that adolescents were in considerable agreement with both parents and peers. Moreover, there is reason to suspect that the relative influence of parents and peers is situation specific, that is, related to the issue at hand, and that in matters pertaining to the adult world (e.g., long term educational and occupational planning) the influence of parents is paramount (Brittain, 1963: 389).

An extensive literature suggests that only a minor role in the achievement process can be accorded differences in secondary schools, net of socio-economic background and ability (Sewell and Armer, 1966; Coleman et al., 1966; Hauser, 1969, 1971). However, school-related variables such as the expectations of various school personnel (Herriott, 1963), attitudes toward school, studies and self (Boyle, 1966a), academic achievement (Sewell et al., 1970) and the status consequences of extra-curricular activities (Spady, 1970) have been implicated in the general occupational attainment process. Williams (1972: 109) identified a major deficiency, namely: "the influence of the expectations of teachers has received little attention although one would expect that these would be particularly salient for students." Attempting to rectify the situation, Williams (1975: 452) investigated the nature of teachers' influence on the development of students' educational ambitions. Contrary to conventional wisdom, the results suggest that teachers' direct influence is relatively minor and may, in fact serve to depress expectations. According to Williams (1975: 451), students, in the development of ambitions, are affected by social origins, ability and academic achievement and by the structural arrangements schools make to deal with ability and/or performance differences (i.e., tracking into terminal and non-terminal programs).

Several studies have reported positive relationships between size of community of residence and levels of educational and occupational plans and aspirations (e.g., Grigg and Middleton, 1960; Elder, 1963; Sewell, 1964; Breton, 1972). In general, the larger and more urbanized the community, the greater the likelihood that students would have aspirations to attend post-secondary educational institutions and to enter high prestige and high salaried occupations. These contextual effects appear to persist even when such factors as students' intelligence and social class are controlled (Sewell, 1964; Sewell and Orenstein, 1965: 551; Forcese and Siemens, 1965: 10). It is necessary to note, however, that the literature is ambiguous in this respect; some trend reversals (Slocum, 1968: 51; Boyle, 1966c: 277) and contradictory findings (Kristjanson, 1967: 59) are evident.

Increased specification of categories is one obvious outcome of recent refinements in the literature relating achievement orientations to community contexts. Initially, only rural-urban differences were documented. Later farm, rural non-farm and urban categories were employed and, most recently, size of community of residence is specified in population terms. Thus, the studies cited above suggest that not only a farm, rural non-farm or urban background, but the size of community as well, is associated with differences in high school students' educational and occupational aspirations and expectations.

Although most of the studies seem to indicate that community size has some effect on aspirations and expectations, they do not explain much about the nature of the influences. More recently researchers, dissatisfied with the mere description of effects, have sought to establish plausible explanations for the "why" of some of the observed trends. They have examined the structural composition and normative climates of the social contexts in which individuals live in an attempt to understand why certain communities furnish less incentive to high aspiration and offer less opportunity for high level achievement. Much of the resultant literature suggests that specific elements of community structure (e.g., propinquity of educational institutions and visibility of occupational opportunities) may have an important bearing on educational and occupational aspirations and expectations. In addition, there appears to be an increased awareness of geographical location and its potential impact on career choices (e.g., Burshtyn, 1975). Dunkerley (1975: 17) points out that type of community is an important determinant of opportunities for entering different occupations. If, for example, one or two industries are the prime employers in an area, then chances are that other occupational types will not be available. Such situations also tend to place social pressures upon an individual to stay within the community and to follow occupations similar to those of his ancestors. As indicated by the following quotation, this has been demonstrated in the case of the mining industry.

> While more occupations may be visible to the individual, the rather geographically isolated position of many mining communities and the social pressure upon the individual prevent a wide range of occupations presenting themselves from which a choice may be made (Dunkerley, 1975: 18).

Thus, past and present preoccupations with the identification of socio-cultural correlates of educational and occupational achievement orientations have resulted in the delineation of a number of relevant variables to be taken into consideration in theoretical formulations about, and empirical research on, the occupational choice process. These continued endeavors to enumerate significant variables have made attempts at meaningful syntheses exceedingly difficult. The results are far from definitive. Ginzberg (1952: 492) pointed out that

> . . . despite thousands of investigations into various facets of occupational decision-making, no adequate theory has been developed to explain how the multiplicity of factors within the environment, and forces within the individual, act and react on each other so that individuals could finally resolve the problem of their occupational choice.

Much of the research previously discussed has been accomplished using bivariate and trivariate cross tabulation. Initially, consideration was confined to the addition of one variable at a time. As mentioned in the preceding review of literature, early studies increased the number of background variables (e.g., socio-economic status, father's occupation, father's and mother's education) and then introduced other measures pertaining to the family (e.g., family size and race, ethnic and religious classifications). Two other significant starting conditions, which received attention, were the individual's locations in time (i.e., age of respondent) and space (i.e., neighborhood and community of residence).

The next category of variables included were school-related: the amount and type of schooling secured, scholastic aptitude or intelligence as measured by standard mental ability tests, academic performance and motivation. This concern with indicators of ability and interest set the stage for the consideration of a variety of psychological factors (e.g., self-concept, goals, values, attitudes, aspirations and intentions) and social influences (e.g., parental, peer and teacher encouragement). Studies with access to older respondents were able to incorporate variables associated with later stages of the life cycle (e.g., age at first job, occupational level of first job, residential migration, marital status, fertility and military service - Duncan, Featherman and Duncan, 1972). Each of the above has been implicated, usually as an independent or intervening variable, in the process of achievement. A number of dependent variables have been examined (e.g., educational attainment, occupational status and earnings).

Investigators have moved beyond replication to the identification of intervening variables (e.g., Sewell, Haller and Straus, 1957). They have strived to develop causal models which would approximate a temporal ordering of variables such as measured intelligence, educational and occupational expectations, status and mobility attitudes (e.g., Rehberg et al., 1970). There has been a growing body of work utilizing multi-variate techniques, including path analysis, to study various aspects of the achievement process.

Surveys of previous work in the area of socio-economic achievement reveal that, for a considerable length of time, researchers focused on the topic of occupational mobility.[2] Investigation of the nature and degree of relationship between respondent's and father's occupation was given priority. Attention was then directed to the significance of schooling. Duncan and Hodge (1963), for example, proposed a three variable model which treated schooling as dependent upon father's occupation, and son's occupation as dependent upon both schooling and father's occupation.

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[2] Detailed reviews of the status attainment literature are found in Duncan, Featherman and Duncan (1972); Haller and Portes (1973); and Sewell and Hauser (1975).

The classic work of Blau and Duncan (1967) represented a departure from traditional social mobility analysis insofar as it examined the extent to which an individual's occupational status is dependent on his social origins, plus the extent to which it is explained by the personal characteristics and experiences that intervene between statuses of origin and destination. Data from a 1962 national sample of American males 20 to 64 years old was used to construct a causal model of status attainment, which consisted of father's educational and occupational status, followed by son's education, son's first job and son's occupation in 1962. In this basic model, educational attainment accounted for nearly all of the effects of father's occupational status and father's education on son's occupation status in 1962. It was found that education affected both early and late occupational attainment and that first job also had an appreciable effect on later occupational attainment. These general results held for the various age groups into which the sample was subdivided and have been interpreted as indicative of the important mediating role education plays in the occupational achievement process.

The Blau-Duncan model (1967) is "basic" in the sense that it prompted a series of subsequent studies which attempted to develop extensions or modifications of the original model. Duncan, Featherman and Duncan (1972: 254) stressed the necessity of an incremental strategy of model building and built on the results of prior work. They represented the basic model as an attempt to explain the association of occupational status, regarded as an "outcome" variable, with characteristics of the family of orientation, regarded as "background" factors. Their extensions included additional outcome variables, additional background factors, and additional variables (i.e., intervening variables and career contingencies) believed to mediate between these two categories.

Thus, the traditional line of investigation catalyzed by the original interest in occupational mobility was seen to be merging with that of researchers investigating educational plans and occupational aspirations (e.g., Turner, 1964; Sewell and Orenstein, 1965) and those examining the role of psychological variables in the achievement process (e.g.,Centers, 1948; Kahl, 1965).

During the same period of time that Blau and Duncan were working on their project, researchers at the University of Wisconsin were involved in similar studies analyzing the effects of social, economic and psychological variables on educational and occupational aspirations and achievements. The impressive body of early work on the Wisconsin study laid the groundwork for the development of more complex models of the status attainment process (Sewell, Haller and Portes, 1969; Sewell, Haller and Ohlendorf, 1970; Woelfel and Haller, 1971).[3]

Sewell, Haller and Portes (1969) developed a linear recursive model which links socioeconomic status and mental ability with educational and occupational attainment by means of intervening social psychological variables, including performance in school, the influence of significant others and levels of educational and occupational aspiration. More specifically, it is assumed that predetermined social structural and psychological factors (i.e., socioeconomic status and mental ability) affect the youth's academic performance and the influence significant others have on him; that the influence of significant others and possibly his own ability affect his levels of educational and occupational aspiration; and that levels of aspiration affect educational and occupational status attainment. The sample consisted of 929 farm-reared males from Wisconsin, who were studied initially as high school seniors in 1957 and who were re-studied in 1964. This model explained 47 per cent of the variance in educational attainment and 33 per cent of the variance in occupational attainment. Although this model added considerably to the explanation of social psychological variables affecting educational and early occupational status attainment, its applicability for youth with more differentiated residential and socioeconomic backgrounds needed to be demonstrated.

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[3] The early work referred to includes studies such as Sewell, 1964; Sewell and Haller, 1965; Sewell and Orenstein, 1965; Sewell and Armer, 1966a and 1966b; Haller and Sewell, 1967; Sewell and Shah, 1967; Portes, Haller and Sewell, 1968; Sewell and Shah 1968a and 1968b. These studies have been cited and discussed, where appropriate, in the preceding review of literature and are summarized in Sewell and Hauser (1975: 5-10).

Using data for five community size categories, Sewell, Haller and Ohlendorf (1970) arrived at a slightly extended (i.e., direct paths from academic performance to levels of educational and occupational aspiration and educational attainment were included) and revised (i.e., one addition: the path from mental ability to significant others' influence, and one deletion: the path from socioeconomic status to academic performance) version of the Sewell, Haller and Portes (1969) model. The data were obtained from a questionnaire survey of all high school seniors in Wisconsin schools in 1957 and from a follow-up study in 1964-65 of a one-third random sample of these students. It will be recalled that Sewell, Haller and Portes (1969) used the same data source, but focused on a farm-reared male sub-sample. The subjects on which the Sewell, Haller and Ohlendorf (1970) analyses were based were the 4,388 males for whom data were available at both times.

The revised model showed that socioeconomic status had no effect on performance in high school, independent of mental ability, but that it had direct and indirect effects on significant others' influence and on educational and occupational aspirations and, through these, on educational and occupational attainments. Mental ability, on the other hand, had direct effects on high school performance, independent of socioeconomic status and direct and indirect effects on significant others' influence and on educational and occupational aspirations and, through these, on educational and occupational attainments. For the total sample, the model accounted for 57 per cent of the variance in educational attainment and 40 per cent of the variance in early occupational status attainment. The main conclusion reached by Sewell, Haller and Ohlendorf (1970: 1024) was that with minor modifications "the Sewell-Haller-Portes model of the educational and early occupational status attainment process has been found to be appropriate for young men from a variety of urban and rural residential backgrounds." In sum, their results confirmed the central role of significant others' influence in the status attainment process, but also showed that academic performance had effects on aspirational and attainment variables that are not mediated by significant others' influence.

The model has been elaborated further by disaggregating socioeconomic status into its component parts - father's educational attainment, mother's educational attainment, father's occupational status and average parental income - and by decomposition of the student's perceptions of the expectations of significant others into parental encouragement, teachers' encouragement and friends' plans (Sewell, 1971; Hauser, 1972). This has enabled researchers to obtain estimates of the separate role of each of these variables in the status attainment process. In addition, as pointed out by Hauser (1972: 161), when the components of a composite variable are represented explicitly, it becomes possible to interpret differences in the effects of antecedent variables on the several components.

Woelfel and Haller (1971) also operationalized significant others' influence differently from the way it was done in the Sewell, Haller and Ohlendorf (1970) study. Instead of using a weighted combination of perceived parental encouragement, teacher encouragement and friends' college plans, these researchers utilized new instruments (The Wisconsin Significant Other Battery) to identify the exact educational and occupational significant others of 100 Wisconsin high school seniors and to measure the expectations of these others for the individual in question. These new variables were then incorporated, along with other variables of known effect, into a model of the process whereby educational and occupational aspirations are set. In addition, an attempt was made to accommodate feedback within the model. While the data base is different, while some variables are operationalized differently, and while the causal model is different, Woelfel and Haller's (1971: 82) conclusions are essentially in agreement with those of Sewell, Haller and Ohlendorf (1970). For example, their results support the contention that significant other influence is a mechanism of mediation. More explicitly, their research lends credence to the argument that social structural factors determine the expectations of an individual's significant others, which in turn exert causal influence over the person's attitudes (i.e., educational and occupational aspirations). These attitudes then influence academic performance and later educational and occupational attainments. An important contribution to this line of work is the finding that:

> . . . the process is not simply recursive; feedback from academic performance (and by implication attainments) exerts influence over both significant other expectations and individual attitudes (Woelfel and Haller, 1971: 85).

The model explained 64 per cent of the variance in educational aspirations and 59 per cent of the variance in occupational aspirations.

A more detailed description of the concepts and instruments involved in the Wisconsin Significant Other Battery (WISOB) is contained in Haller and Woelfel (1972). The requisite concepts and instruments were tested on educational and occupational orientation data gathered from 109 randomly selected high school seniors in West Bend, Wisconsin. Partial regression (with seven key variables controlled) of significant others' mean educational expectation levels on a youth's educational aspiration level yielded B = .46 and of significant others' mean occupational expectation levels on a youth's occupational aspiration level yielded B= .52 (Haller and Woelfel, 1972: 591). The three best predictors of educational aspirations were found to be the student's level of occupational aspiration, the educational expectations of his significant others as measured by WISOB, and his perception of his leadership activities. With respect to occupational aspiration, the most influential predictors were the student's educational aspirations and the occupational expectations of his significant others as measured by WISOB. The variance explained in both cases (64 per cent for educational aspirations and 56 per cent for occupational aspirations) is quite substantial. One conclusion reached by Haller and Woelfel (1972: 617), on the basis of these findings, was that "significant other influence, as detected and measured by WISOB, appears to be an important variable influencing the educational and occupational aspirations of high school students." In the course of discussion, these authors also suggest that the effectiveness of models which only employ significant others' educational expectations might be enhanced by the addition of significant others' occupational expectations.

In their book, Education, Occupation, and Earnings, Sewell and Hauser (1975) report on an extensive analysis of the achievements of a large sample of Wisconsin men during the ten years following their high school graduation. Their basic model links socioeconomic background (as measured by father's and mother's education, father's occupation and parents' income) and son's academic ability with the son's educational, occupational and earnings achievements. They then elaborate the basic model to include, as mediators between background and achievement variables, such social psychological factors as rank in high school class, perceived expectations of significant others, and educational and occupational aspirations. Thus, their social psychological model of the status attainment process links family background statuses to educational and occupational attainments and earnings by means of three intervening processes which sequentially involve academic ability and performance, significant other influences and aspirations. The effectiveness of this specification as a predictive model is attested to by the fact that it accounts for 54 per cent of the variance in educational achievement and 43 per cent of the variance in occupational attainment. The model is much less effective in predicting earnings, where it accounts for only 7 per cent of the variance in 1967 earnings.

The Sewell and Hauser (1975: xii) analysis builds on the works of Blau and Duncan (1967) and Duncan, Featherman and Duncan (1972); and of Sewell, Haller and Portes (1969) and Sewell, Haller and Ohlendorf (1970). It has been significantly influenced by recent work on the economics of education and of human capital as well. Although this work arises out of a different tradition than status attainment theory, it shares some common concerns with sociological research on the achievement process and, thus, its major themes require some elaboration at this point in the discussion.[4]

The economics of education, with its concept of investment in human capital, is recognized as a branch of economics (Blaug, 1968: 7). The treatment of productive human beings as capital or wealth is a persistent theme throughout economic literature. During the first half of the twentieth century, however, the majority of economists restricted the concept of capital to "that portion of the non-human, material, man-made stock of wealth which is utilized directly in further production" (Shaffer, 1961: 45). Critiques of the dominant approach in economics, which emphasized the role of material capital, set the stage for the emergence of a contrasting concentration on the role of people, conceptualized in terms of an alternative type of capital, human capital. More recently, the application of the capital concept to man has been revised and reference has been made to "the human investment revolution in economic thought" (Blaug, 1968: 9). Contemporary interest in the area has been attributed to Theodore W. Schultz's 1960 Presidential Address to the American Economic Association. Schultz's statements with respect to investment in human capital have served as catalysts for several subsequent studies and publications pertaining to the economic value of education.

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[4] Many articles and reviews dealing with this literature are available including: Becker, 1964; Blaug, 1967, 1968, 1969 and 1970; Bowman, 1969; Hansen, 1970; Kiker, 1971; Schultz, 1971; Karabel and Halsey, 1977).

In essence, Schultz (1961: 13) asserted that the skills and knowledge acquired by people are a form of capital and that this capital is, to a considerable extent, the result of direct investment. In this context, outlays on food, health care, housing and recreational facilities, as well as expenditures on education and internal migration to take advantage of better job opportunities, constitute investments in human capital. Examples of investments also include earnings foregone by mature students attending school and by workers acquiring on-the-job training and the use of leisure time to improve skills and knowledge. Schultz (1961: 14) has suggested that "by investing in themselves people can enlarge the range of choice available to them." Also, it is argued that by improving the quality of human effort, its productivity is enhanced. The following quotation reflects this position.

> . . . skill, knowledge and similar attributes affect particular human capabilities to do productive work. In so far as expenditure to enhance such capabilities also increase the value productivity of human effort (labor), they will yield a positive rate of return (Schultz, 1961: 21).

Critics of the human capital concept (e.g., Shaffer, 1961) have discussed some of the major difficulties in identifying and measuring the return that is associated with a particular investment in man.

With respect to education, it has been noted that "some individuals and families make decisions to invest in some kinds of education, either in themselves or in their children, with an eye to the earnings that they expect to see forthcoming from such expenditures on education" (Shaffer, 1961: 48). Thus, earnings have been regarded as yield from, or return on, educational investment. This line of thinking has led to studies analyzing the linkages between schooling (measured in number of years of attendance and/or type of school attended) and success (measured in terms of social position and/or annual or life earnings). Recent studies (e.g., Blaug, 1967) have attempted to calculate the rates of private and social return on investment in different and alternative types of postsecondary and higher education as well as on investment in different amounts of education. Earning differentials, for example, have been attributed to differences in the amount of human investment (e.g., differences in health and education). In addition, societal analysts have pointed out that if human capabilities lag behind physical capital, they become limiting factors in economic development. It is asserted that investment in human capital not only augments individual productivity and private return, but also lays the technical base of the type of labor force necessary for economic growth (Karabel and Halsey, 1977: 12). According to this perspective, education is a type of investment not only for the individual, but for society as a whole.

The divergence of private and social costs and benefits inherent in education, however, has raised some particularly difficult policy problems (Johnson, 1964: 41). Considerable attention has been devoted to the difficulty of combining economic with specific social and political objectives for education in both developed and developing countries. Some human capitalists have taken governments to task for what they consider to be substantial underinvestment in human beings and have used their approach as a basis for promoting increased public expenditures on education and other investment in man programs. Thus, in addition to describing and explaining the relationship between education and the economy, advocates of the approach sometimes prescribe and recommend. However, Blaug (1970: 7) points out that their basic position (i.e., that education and training can be regarded as a type of investment in human capital) constitutes "a programme for research, rather than a pronouncement of an indisputable insight." Furthermore, he contends that it is only by posing particular questions about education and training that we can assess the validity of the human capital approach (Blaug, 1970: 8).

The type of questions explored in an economic analysis of education includes:

> . . . how much should a country spend on education and how should the expenditure be financed? Is education mainly 'investment' or mainly 'consumption'? If investment, how large is its yield compared to other forms of investment in people and material

> equipment? If consumption, what are the determinants of the private demand for more or better education? What is the optimum combination of pupils' time, teachers, buildings, and equipment embodied in schooling? What is the optimum structure of 'the educational pyramid,' that is, the number in the different levels and channels of the educational system? What is the optimum mix of formal education within schools and colleges, and informal education outside them? Lastly, what contribution does education make to the overall development of human resources and how far can we accelerate economic growth, particularly in low-income countries, by controlling the expansion of educational systems? (Blaug, 1968: 7-8).

Close scrutiny of questions such as those listed above reveals that the subject matter can be divided into two areas: analyses of the economic value of education (e.g., the impact of schooling on labour productivity, occupational mobility and the distribution of income) and analyses of the economic aspects of educational systems (e.g., the internal efficiency of schools and the relations between the costs of education and methods of financing these). In essence, the first deals with the productivity _of_ schools and colleges; whereas, the second examines productivity _in_ schools and colleges (Blaug, 1968:9).

One of the main criticisms contemporary theorists level at human capital economists is that they have neglected to examine the educational _process_. Karabel and Halsey (1966: 16), for example, state that

> . . . their input-output models have never offered insight into what was going on in the 'black box' of education that would explain its correlation with earnings.

Recently, Alexander and his associates have attempted to replicate both the Blau and Duncan "basic model" of the status attainment process (Alexander and Eckland, 1975) and one of the Wisconsin "social-psychological" models of socioeconomic achievement (Alexander, Eckland and

Griffin, 1975). These researchers report that the results of their initial replication analysis were consistent with previous inquiries in this area. In the second study, interpersonal and subjective school variables were found to mediate a substantial part of the effects of ability and social origins on later status outcomes, indicating complex processes quite similar to those demonstrated in the original Wisconsin analysis. It is interesting, in light of the preceding discussion of the economics of education orientation, to note that some of the results suggest that "the direct wage return to, or 'human capital' value of, academic ability per se is quite marginal" (Alexander, Eckland and Griffin, 1975: 332).

Comments on two Canadian studies complete the review of literature pertaining to the development of complex models of the achievement process.

Williams (1972) used a causal model derived from reference group theory to depict the development of educational aspirations in high school students. The model incorporated influences due to three reference groups (parents, teachers and peers), the student's academic achievements, intellectual ability and his socioeconomic background. Measures of the influence of referents at two points in time (Grade 10 and Grade 12) were included. The model was quantified separately for males and females using data on 3687 Canadian students. The results suggest that the influence of referents changes over time, that parents exert the greatest influence and that sex differences in the educational decision making process exist. The model explained 68 per cent of the variance in the Grade ten aspirations of males, 67 per cent of the variance in the girls' aspirations at this time, 81 per cent of the variance in boys' aspirations in Grade 12 and 77 per cent of the variance in the aspirations girls have in Grade twelve (Williams, 1972: 124).

Gilbert (1977) has attempted to replicate the Sewell, Haller and Ohlendorf (1970) model. Initially, the Wisconsin model of occupational attainment was adapted to treat educational and occupational aspirations as the dependent variables. Socioeconomic status and mental ability were independent variables in the model affecting significant others' influence and the academic achievement of the student. In turn, academic achievement and significant others' influence were expected to exercise direct effects upon both educational and occupational aspirations. This model was applied to Ontario Grade 12 male students and was as successful in explaining variance in the level of educational aspiration as the Wisconsin model. Both explained 41 per cent of the variance in level of educational aspiration. However, the Canadian version explained less of the variance in level of occupational aspiration than the Wisconsin model - 22 per cent, as opposed to 37 per cent. In addition, Gilbert (1977: 288) extended the original model by adding two new variables: self-concept of ability and program of study. The extended model explained 63 per cent of the variance in level of educational expectation and 36 per cent of the variance in level of occupational expectation for the same group of students. In sum, the study's findings support the hypothesis that the role of socioeconomic status in the formation of aspirations is greater in Canada than in the United States. The data also demonstrated that self-concept of ability and program of study were intervening variables in the process of aspiration formation.

We turn now to a consideration of some of the major findings from existing longitudinal studies relevant for an examination of aspirational and expectational stability and change.

Longitudinal Studies of Stability and Change in Educational and Occupational Choices

Early work in the area has explored several general topics such as factors affecting variability (Fiske, 1957: 464), the dynamics of vocational interests (Bordin and Wilson, 1953: 299) and changes in occupational attitudes (Hammond, 1959: 70).

One of the first studies to focus explicitly on transitions in occupational choice was Strong's (1952) attempt to measure the amount of change in the occupational plans of 255 Stanford University freshmen and to ascertain how the two factors of occupational prestige and interests were associated with amount of change. The results revealed that forty per cent of the freshmen had changed their occupational plans by the time (one year later) they were sophomores and sixty per cent had not shifted their choices. Those who shifted had approximately the same average prestige values before and after the change. Also, it was found that those who changed their choice did not select an occupation more in harmony with their interests than their first choice. In general, the greater the difference between the two occupational choices, the less the agreement between either choice and measured interest of those choices.

In a study conducted by Forrest (1961: 469) data were tabulated on the changes and non-changes in major fields of study and vocational choice for 292 male and 120 female Merit Scholars. It was found that about one-half changed vocational choice between their senior year in high school and the end of their junior year in college. Female Scholars demonstrated a slightly higher rate of change than male Scholars. Moreover, it was shown that a change in major field was closely related to change in vocational choice. The study indicates that the major patterns of change were from science to non-science fields and from practical to theoretical fields. According to Forrest (1961: 471), changes in vocational choice among talented youth appear to be motivated by desires to seek vocational areas which give more stress to humanistic values and to achievement in areas stressing or requiring work at higher levels of abstraction.

In theory, Super (1955) has suggested that the agreement among an individual's choices should increase as he matures. However, Super's Career Pattern Study (1961), a twenty year survey of approximately 140 boys from the time they were in the ninth grade to their establishment in the world of work at about age 35, has yielded disappointing results in this respect. For example, a subject's standing on the twelfth grade measures of vocational maturity could not be predicted from his ninth grade scores.

From a similar study of "readiness for vocational planning", Gribbons (1964: 908-913) reports significant changes on two dimensions: Factors in Curriculum Choice and Factors in Occupational Choice. In 1958 (eighth grade) and again in 1961 (tenth grade) the subjects (56 boys and 54 girls) were asked to state occupational choices and these were rated for socio-economic level. The correlation between 1958 and 1961 level of occupational choice scores was .66, indicating moderate stability for this variable (Gribbons and Lohnes, 1964a: 17).

One of the most extensive studies ever to be conducted in vocational psychology, Project Talent, was begun in 1960 under the direction of John C. Flanagan (Crites, 1969: 209). Its design called for the drawing of a 5 per cent probability sample of American high schools, that is, approximately 400,000 students (male and female) in grades 9 through 12. Analysis of the stability of career plans from the time of the 1960 initial testing to the follow-up (1966) revealed that there was considerable change in the vocational choices through the high school years. In general, choice stability increases as occupational entry is approached, but even in the twelfth grade is quite low.

A study by Schmidt and Rothney (1955) examined the consistency of the vocational choices of 347 high school students who were interviewed in grades 10 through 12 as part of an intensive guidance program. They found that those who changed their vocational plans at least once during the high school period made up nearly two thirds (65.1 per cent) of the whole group. A little more than a third (34.9 per cent) expressed the same choice each year all the way through high school. Schmidt and Rothney (1955: 143-144) offer the following findings and suggest some implications.

> Almost half (48.7 per cent) of the students expressed consistent patterns over the part of the senior high school period in which their vocational choices might influence their choice of electives. The assumption that vocational choices of counseled subjects are consistent enough to warrant long range planning of high school programs is thus applicable in less than half the cases. The practice of requiring all students to plan a three year program in detail at the time they enter high school and

> of requiring them to follow that plan must be questioned.

In short, the study of this group suggests that variability, rather than consistency, of vocational choice is the rule for the majority of counseled high school youth.

To determine whether the nature of the above mentioned interviews, which were conducted as part of a guidance program, had an effect upon choice consistency, Kohout and Rothney (1964) compared the choices, occupations, and future plans of an intensively counseled group of students with those of a nonintensively counseled group. Their general finding was that there were no significant differences between the two groups in the percentages of each which had the same choice over long periods of time. In contrast to the earlier study, however, Kohout and Rothney (1964: 21) found much lower stability percentages, possibly because they used a different stimulus question to evoke vocational choice.

Holland (1964a: 27) has utilized both longitudinal and cross-sectional designs to test his theory of vocational choice, which involves a "matching" of personality types with environmental models. Evidence has been accumulated which indicates that "congruency and consistency in personality type-environmental model interactions are related to both stability in choice of college major field and vocational goal" (Crites, 1969: 208). Remaining in a given field appears to be associated with having personal attributes commonly associated with the typical student in that field in terms of aptitudes, achievements and personality (Holland and Nichols, 1964b: 235).

Holden (1961: 36) decided to investigate the possibility of a relationship between intelligence level and persistence of the level of career choice. It was hypothesized that students at the lower range of the I. Q. continuum are more likely to change the level of occupational choices between grades 8 and 11 than students in the upper range of the I. Q. continuum. It was further hypothesized, in the form of a corollary, that as they proceed through the grades from 8 to 11, students at the lower levels of scholastic ability would, as a group, tend toward a vocational choice that is more suitable to their scholastic ability. The hypothesis and corollary both appear to have significant support in the resulting data (Holden, 1961: 41).

Cooley's (1964: 90) Scientific Careers Study, which examined the process of becoming a scientist from elementary school through four years beyond college, found that early choice was a better predictor of later choice than were measured interests. Montesano and Geist (1964: 150) found that there was a discernible direction of change in occupational decision making with age. Older boys (twelfth grade) use interests less, abilities more, and cite occupational variables to a significantly greater degree than younger boys (ninth grade).

Similarly, two studies were designed by Astin (1967 and 1968) to assess the career expectations of 650 male high school seniors (Study 1) and 816 female high school seniors (Study 2) from their personal characteristics as ninth graders and from selected environmental characteristics of their high schools. For the boys, measured interests and expressed career choice at the ninth grade level were the best predictors of career outcomes at the twelfth grade level (Astin, 1967: 94). For the girls, seniors choosing different careers could be differentiated in terms of interests, career plans, and aptitudes as measured during the ninth grade (Astin, 1968: 536).

More pertinent for the purposes of the present research are two fairly recent studies (Flores and Olsen, 1967: 194-112; Williams, 1972: 107-133). Williams (1972: 107) represents the development of educational aspirations in 3,687 Canadian high school students in a causal model developed from the point of view of reference group theory. Although this researcher does not examine changes in educational aspirations per se, he includes measures of the influence of referents at two points in time. Change in the relative effects of the various causes specified is central to the investigation. The data suggest that the influence of referents changes over time, that parents exert the greatest influence, and that sex differences in this decision-making process are manifest (Williams, 1972: 107).

The purpose of the Flores and Olsen (1967: 104) study was to investigate whether or not level of occupational aspiration (LOA) was stably and realistically formed in eighth grade males. To test the LOA of eighth grade males for stability and realism, their LOA was compared with the LOA of twelfth grade males. No significant differences were found between the two groups on the means and standard deviations of their distributions of scores on the Occupational Aspiration Scale (OAS). Flores and Olsen (1967: 111) conclude that "LOA is probably formed in eighth grade males and is possibly one of the first stable and realistic occupational considerations formed in young people."

Thus, although several writers have argued that occupational choice involves a process rather than a "threshold" type decision, very few empirical attempts extant endeavor to delineate the course of events over time. Longitudinal studies are rare. More specifically, a literature on the problem of stability and change in aspirational and expectational levels is difficult to locate. The majority of longitudinal studies reviewed above have evolved from programs of research in vocational psychology. These studies have investigated interests, vocational maturity and readiness and vocational development inventories, but have not addressed themselves to traditional sociological concerns in the area. For example, individual capabilities tend to be emphasized; external social influences (e.g., economic and prestige factors) excluded.

Several of the samples are highly selective in terms of age (college students), sex (mostly all-male), and ability (scholarship winners). The time spans covered tend to vary considerably (e.g., nine weeks to nineteen years). Despite these sorts of deficiencies, existing longitudinal studies do provide some indication of trends in career development. Although a consensus has not been reached, it seems that change, rather than stability, characterizes adolescent educational and occupational choice patterns.

While it could be argued that there are deficiencies in both the vocational psychology and sociology studies, taken together a reasonably comprehensive picture does emerge. From the results of the longitudinal vocational psychology projects, we extract the empirical generalization that some adolescents are inclined to change their career choices over time. From the sociological studies, we become cognizant of some of the factors conditioning choice at a particular point in time. Taken together, these themes suggest that a significant contribution to the literature would be made by a study which attempts to synthesize these two research traditions; that is, a study which attempts to identify factors associated with the consistency and congruency of adolescents' occupational aspirations and expectations over time.

Chapter III

THEORETICAL FRAMEWORK AND STATEMENT OF THE HYPOTHESES

To gain insight into the phenomena under study two bodies of theory are consulted: socialization theory and occupational choice theory. The strategy of presentation adopted is one that moves from the general to the specific. At a general level, an attempt is made to discuss the socialization process, isolate its various components and examine, albeit briefly, some of its intricate workings with respect to occupational choice. More specifically, existing theoretical orientations on occupational choice are reviewed with the expressed intent of discerning their respective positions on the event-process debate (i.e., whether choice is an event or a process as far as theory construction is concerned). Lastly, a conceptual framework which resolves the issue is outlined.

When assessing the uniquely sociological contribution to the specification of the socialization concept, it is necessary to note that:

> . . . interaction became the key notion in the study of human behavior and, through the vehicle of cultural norms and the concepts of role and status . . . became the focus of study of the individual in his social setting (Dager, 1964: 742).

From a sociological point of view, the term "socialization" refers to "the process by which the individual is originally inducted into the social organization" (Gottlieb and Ramsey, 1964: 155). Through this process a child is disciplined and trained, taught the physical and the social skills necessary for participation in society, familiarized with roles and role relationships, and imbued with ideals, aspirations and values of various kinds. According to Merton (1957b: 287) the term designates:

> . . . the processes by which people selectively acquire the values and attitudes, the interests, skills, and knowledge - in short, the culture current in the groups of which they are, or seek to become, a member. It refers to the learning of social roles.

The main premise of the social role theory of socialization emphasizes that a child is born into an ongoing society that has common symbols, recognized positions (statuses) and established patterns of behavior (roles) and that it is through others that the child learns what is necessary to become a functioning member of society (Elkin, 1960: 19). Thus, the concepts of status and role, the behavior of "significant others" and the process of learning are central to this general perspective. Restated in terms of role theory, the problem of socialization requires an explanation of how a child comes to function within a system of statuses. In short,

> How does he learn to recognize status positions, to know and internalize their expectations and accompanying values, and to act those roles that are appropriate for him? (Elkin, 1960: 20).

A child learns what is expected of him in interaction with other people. It is necessary to note that all other people do not have an equal influence on the child. There are those who exert greater influence because of their frequency and primacy of contact and their control over rewards and punishments. These are his "significant others."

It is readily acknowledged that the family forms the matrix of social experience in which the basic socialization of the child takes place and in which the most persistent personality configurations are formed (Cottrell, 1948: 127). In essence, it is through the experiences of family life that the child undergoes the initially important stages of the socialization process. Part of this process involves becoming sensitized to social expectancies (cf. Cooley's concepts of "human nature", "primary group" and "looking-glass self") and learning how to adopt and take on roles (cf. Mead's concepts of "social object" and "taking the role of the other").

Utilizing this orientation, it is necessary to note that occupations are roles within society. Ginzberg (1951: 234) has summarized the role of the family with reference to occupational choice.

> The family continues to exercise an important influence on the occupational choices of the younger generation. For it is as a member of a family that the child first learns about the jobs that exist in the adult world; it may be through the family that he acquires his first experience at work; and it is through the family that he is encouraged to follow one path and discouraged from following another, even if only indirectly through the absorption of familial attitudes and values.

Sometimes the more or less irregular conversations that occur in a home regarding desirable or undesirable occupations and the chances to attain them coupled with the offhand comments by parents about status and mobility as well as their own occupational behaviour and attitudes constitute a form of communication more subtle yet just as effective as direct statements (Scanzoni, 1967: 455).

To be sure, adolescents broaden their range of social contacts and increase the number of others who are emotionally and normatively relevant to them by becoming less dependent on parents and more oriented to peers and other adults (e.g., teachers, employers, etc.). Breton (1972: 5), among others, has attested to the above assertion:

> . . . while in childhood the family was by far his most significant group, in adolescence other groups and institutions appear and assume importance in shaping his attitudes, decisions, and behaviours.

It is doubtful whether anyone would seriously question the contention that during adolescence the circle and diversity of significant others widens. Moreover, the appraisals of an adolescent's behaviour by these others is deemed mandatory for the establishment of a viable self-concept.

Possibly one of the most popular themes reiterated in the literature on adolescent socialization is the search for self-identity. According to this idea, adolescence constitutes a period which is primarily devoted to the "crystallization of one's sense of self--a satisfactory integration of sexual identity, goals and aspirations, personal ethics, and emotional independence" (Evans, 1970: 52). It is understood that identity formulations have their foundations laid during infancy and early childhood. Nevertheless a variety of personal and social factors operative during adolescence are thought to necessitate a reassessment of one's self-concept. Pubertal changes, for example, often require a reorientation toward body image. Moreover, the adolescent is exposed to augmenting socio-cultural pressures demanding significant decisions about his own existence (e.g., occupational choice, choice of marital partner, etc.).

For several years, the accepted conceptualization of vocational choice, with few exceptions, was that a person reaches a certain point in his life (usually high school graduation) when he must select a career. Parsons (1909), for example, depicts the individual's vocational choice as his "greatest decision" and points out that it occurs "at that time in his life when he is about to enter the world of work" (Crites, 1969: 125). More recently, Yoesting and his associates (1969: 1) suggest that as youth approach graduation from high school, they are confronted with a number of questions for which they are forced to formulate answers in a relatively short period of time:

> What kinds of occupations would be the most interesting and rewarding? What kinds of occupations are available? Which occupations are reasonable career alternatives, given personal circumstances and capabilities? Would more education be necessary to enable the achievement of the desired career alternative? Is it possible to obtain additional education?

Those conceptualizing choice as a decision which the individual makes at a given moment in time tend to emphasize the instantaneous nature of choice and enumerate the factors which influence occupational selection at the choice point. Implicit in this traditional perspective is the assumption that an adolescent gives little thought to his career choice until the end of high school is imminent and he is confronted directly with the problem of entering an occupation and establishing himself among the ranks of the gainfully employed.

In marked contrast to this "threshold" or "crossroads" conception of vocational choice as a one-time event, is the idea that choice is a process which transpires over a prolonged period of time.

The choice of occupation, viewed as a subjective process and as a part of the achievement of maturity, was the subject of an interdisciplinary research investigation conducted by Ginzberg and his associates. The resulting publication, Occupational Choice: An Approach to a General Theory (1951) represents the collaborative efforts of an economist, a psychiatrist, a sociologist, and a psychologist. The basic elements in the general theory of occupational choice they developed may be summarized succinctly as follows: "occupational choice is a process; the process is largely irreversible; compromise is an essential aspect of every choice" (Ginzberg, 1952: 108).

By process, these authors mean a developmental sequence which extends over a long time (" . . . it can be said that the process begins at the birth of the individual and may remain open until death" -Ginzberg, 1952: 108). The process is regarded as largely irreversible because, after investing considerable amounts of time and money and committing significant segments of self, individuals tend to be reluctant to change directions (i.e., the inertia effect). Thus, reality pressures constitute major obstacles to shifting plans. In addition, emotional reasons for reluctance to alter courses of action are sometimes generated because change is frequently equated with failure. The process of occupational choice is characterized further as a compromise between interests, capacities, values, and opportunities. It is evident that an interplay between the individual and his environment is essential at some point in the process. The individual, cognizant of his interests, values, and abilities, must assess the situation and the extent to which existing environmental opportunities enhance or impede the pursuit of his life goals.

The theory of vocational development advanced by Super (1953) is one of the viable and constructive responses to the Ginzberg occupational choice theory. In this framework the process of vocational development is that of developing and implementing a self-concept. Super (1957) elaborated upon Ginzberg's conclusion that choice is a process by emphasizing that it is a continuous process. By "continuous", Super (1953: 187) means that "there is no sharp distinction between choice and adjustment. Instead they blend in adolescence with now the need to make a choice and now the need to make an adjustment predominating in the occupational life situation."

Several more recent theoretical orientations accept and elaborate the view of the classical frameworks (described above) that occupational choices and decisions are probably best regarded as "largely continual processes" (Sofer, 1973: 44). For example, Keil and her colleagues (1966: 121) contend that

> . . . evidence from a wide range of research suggests that family, neighbourhood, peer groups, education received, influences from mass media, the extent of formal vocational guidance, all need to be considered, and that experiences from these sources, as well as the nature of the work undertaken, are relevant to the development of any particular reaction toward working life. This implies that entering the world of work and adjusting to it is a process.

Musgrave (1967: 33-46) offered an approach to occupational choice through the concept of socialization seen strictly as learning to take roles. Musgrave (1967: 301) sees the process of the development of occupational preferences and of attempts to implement these in terms of movement between a series of linked roles. He represents the (potential) life cycle as a large number of alternative pathways theoretically available to individual members of a given society. Choice (or direction by others) at each stage limits the possible pathways along which the individual may move in the future. It is in the pre-work stage that the pathway of roles available to the child, and hence his occupational range, are narrowed by the experience he undergoes at the hands of family, school and peer group.

Utilization of the process depiction has been fairly prevalent in the past (Form and Miller, 1949: 317; Ginzberg, 1951; Katz and Martin, 1962: 149-154) and appears to be increasing in prominence (Ivey and Morrill, 1968: 644-649; Sewell et al., 1969: 82-92; Sewell et al., 1970: 1014-1027; Haller and Portes, 1973: 51-91). Thus, Ford and Box (1967: 289) appear to be correct in summarizing a whole body of recent work as

> . . . entailing the view that occupational choice represents the culmination of a process in which hopes and desires come to terms with the realities of the occupational market situation.

In sum, is occupational choice an event or a process? It is this writer's opinion that the issue is an artificial one. It appears more appropriate to conceptualize occupational choice as a process which involves or is comprised of a series of point-in-time decisions (events) (see Figure 2). At each decision or "choice" point, as the future is transformed into the present, the individual weighs his aspirations against his expectations (see Figure 3). As the individual progresses through the life cycle his aspirations and expectations undergo varying degrees of transformation because they are affected by differing personal and socio-cultural factors.

One of the central premises extracted from our general consideration

Figure 2

Occupational Attainment Process

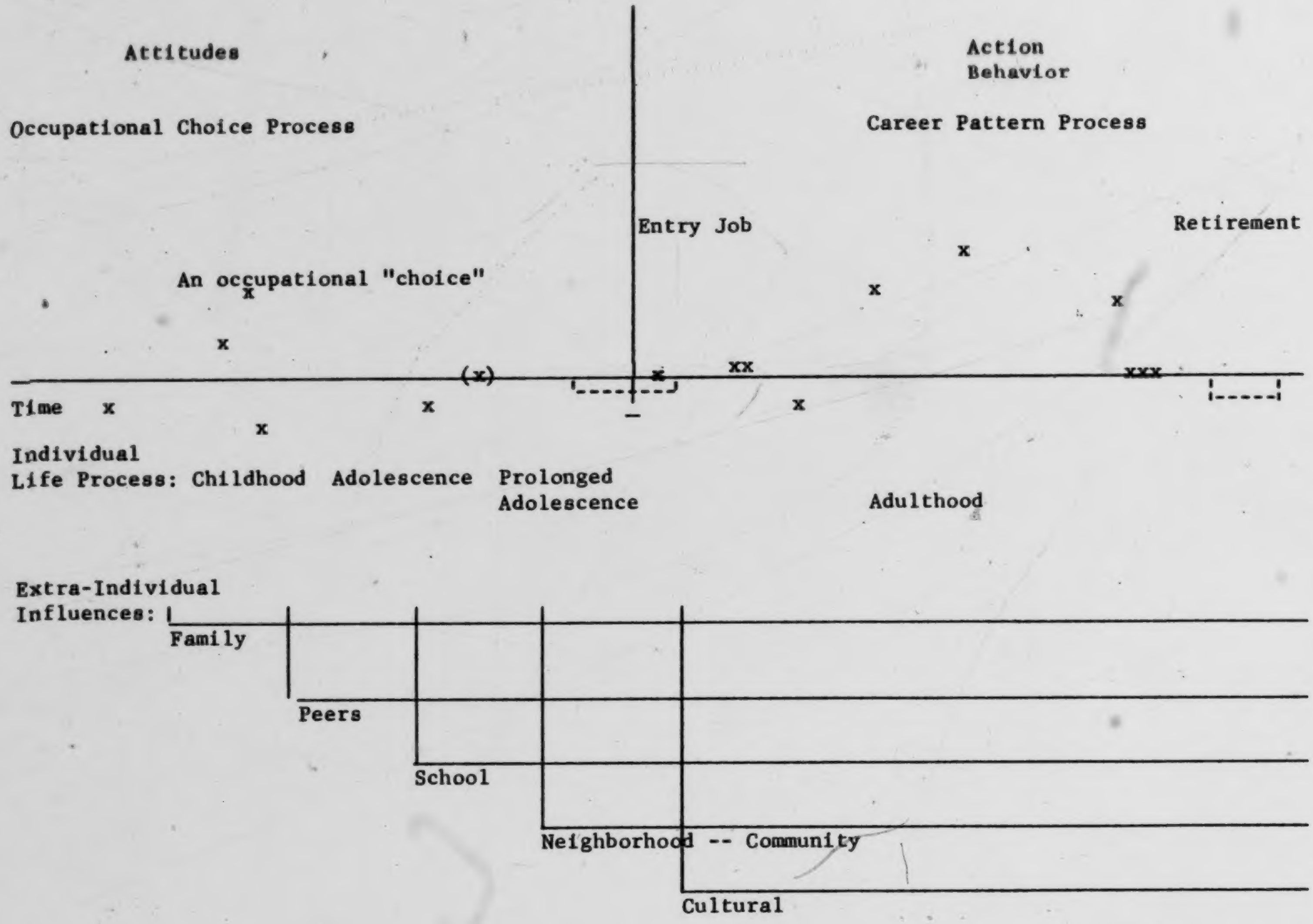
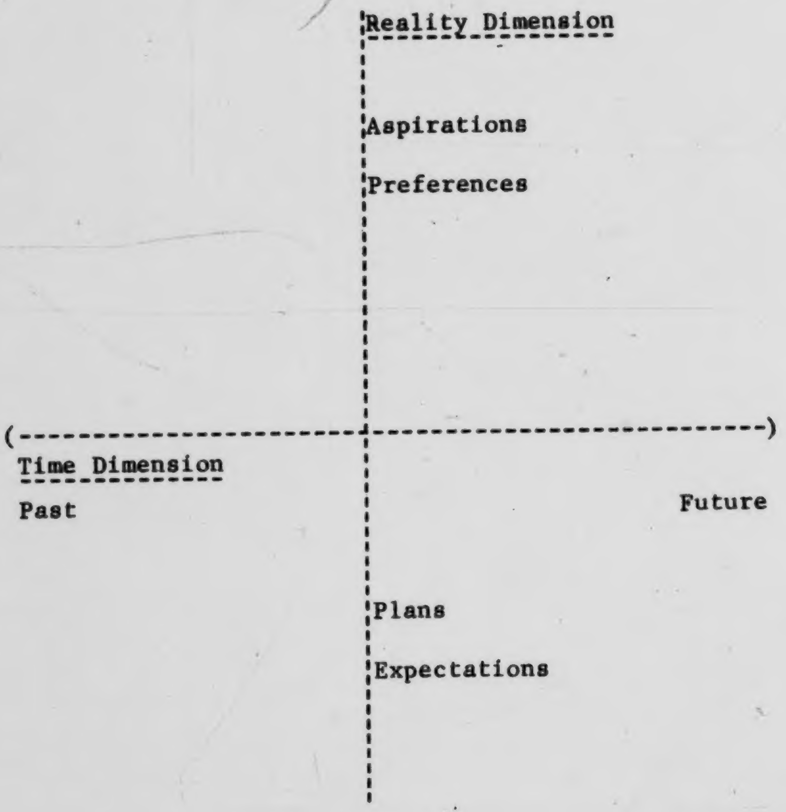

Attitudes
Action
Behavior
Occupational Choice Process
Career Pattern Process
Entry Job
Retirement
An occupational "choice"
(x)
xx
xxx
Time
Individual
Life Process: Childhood
Adolescence
Prolonged
Adolescence
Adulthood
Extra-Individual
Influences:
Family
Peers
School
Neighborhood -- Community
Cultural

Figure 3

The Occupational Choice (Decision-making) Process


Reality Dimension
Aspirations
Preferences
Time Dimension
Past
Future
Plans
Expectations

of socialization theory suggested that very early in life children are sensitized to social expectancies and must learn how to take on and function adequately in social roles. Of the many roles that contemporary adults are requested to perform, few exceed in importance the acquisition of occupational skills and attitudes. Acceptance of the characterization of occupations as achieved social roles sparks interest with respect to investigating and understanding how this achievement is accomplished. Here, of course, traditional themes from the occupational choice theories proved helpful, but certainly not conclusive. Review in this area revealed the event-process debate. Theoretically, the processual depiction has accrued considerable support; empirically, research remains, for the most part, centered around the event notion. A conceptual framework, which attempts to resolve this issue, was sketched in the preceding paragraph and represented diagrammatically (see Figure 2 and Figure 3). The following section describes and discusses in more detail the various components of this framework.

Cognizant of the position that socialization is a continuing and not simply an early and terminal process (Brim and Wheeler, 1966) some have asserted that the occupational attainment process, in the broadest sense, spans the life cycle. Take for example, the five stage schema presented by Miller and Form (1951) which is applicable to the whole of an individual's life. More often significant segments are focussed upon.

Typically one is able to detect a major turning point (sometimes referred to in the literature as a "crossroads" or "threshold" conception (e.g., Crites, 1969; Dunkerley, 1975: 5) that marks the transition from the non-work to work period of an individual's life. For some, events document the demarcation in a dramatic, or at least obvious, fashion. For others, the passage may be more obscure and blurred by a series of part-time involvements with respect to work. Although circumstances vary, usually two distinct phases can be identified: one associated chiefly with the attitudinal realm (wherein there is increasingly concerted contemplation of what one prefers and plans to do culminating in an expressed commitment to a particular occupation or occupational area--i.e., an "occupational choice") and one associated with actual behavior (marked by entrance into the labour force and embarkation on a job or series of jobs that may eventually be characterized as a "career pattern"). The first period is usually referred to as the occupational choice process, whereas the second is labelled career development. In so far as it is possible to separate the two, it is with the former, rather than the latter, that the present study is concerned.

The term "occupational choice" is used repeatedly to delineate the area of study examining the transition of young people from school to work. The idea of "choice" and the rationality it implies has been the subject of a considerable amount of scrutiny (Blau et al., 1956: 535; Ford and Box, 1967: 111; Crites, 1969: 122; Pavalko, 1971: Chapter 3; Williams, 1974: 21; Dunkerley, 1975: 10). Sofer (1974: 13) has summarized some of the issues associated with its use.

> It can be taken to imply that people enter the occupations they do after careful and systematic consideration of the alternatives open to them, that the attempt to implement preference is a distinct and discrete act and that the overall

> distribution of persons between occupations in our society is what it is as a result of the culmination of several million personal decisions made in this way.

That individuals systematically choose the occupations they intend to enter is a basic assumption of the majority of theories of vocational choice. Only accident theory (e.g., Caplow, 1954: 218; Katz and Martin, 1962: 149) posits that people make decisions about the future randomly or by chance. Accident theory correctly emphasizes the significance of external factors in the choice process but ignores the fact that the manner in which the individual takes account of external factors is a function of the way in which he perceives and reacts to them. More explicitly, what accident theory fails to recognize is that vocational choice qualifies as a response and, as such, is lawfully related to a variety of stimulus conditions (e.g., social class). As mentioned previously, Blau and his associates (1956: 532) have argued that individual prerogative must be studied in conjunction with the selection procedures operative in society. If, however, we accept the primacy of environmental influences and focus exclusively on selection processes, situational contingencies and conditioning factors, we are not dealing with genuine choices but with outcomes. A compromise is mandatory. A person's occupational choice is the result of complex interaction between the characteristics of the individual and those of the society in which he lives. Thus, in the discussion that follows, elements that enter an individual's decision will be examined initially and then the social constraints impinging upon individual decision-making will be investigated.

Specification of the nature and parameters of occupational choice has been considered to be a complicated task fraught with difficulties (Crites, 1969: 117; Moore, 1969: 871). A recent dialogue on occupational choice indicates that researchers have not reached a consensus regarding the terms "aspiration" and "expectation" (Kuvlesky and Bealer, 1966: 265-275 and 1967: 290-301; Bealer and Kuvlesky, 1968: 349-356; Haller, 1968: 484-487; Mirande, 1968: 349-356). Kuvlesky and Bealer (1966: 265-266) contend that a lack of explicit conceptualization has hindered the usefulness of past aspirational studies on two counts.

> First, it is often difficult to compare the findings of the numerous studies. Most researchers rely on operational definitions to set out the meaning of their terms. When the operations vary (as they often do) and there is no clearly conceptualized base point to gauge that diversity, the danger of misunderstanding is magnified. Second, the same term is often used for different ideas and different terms for the same idea. Such semantic confusion leads to the danger of erroneous implications being drawn and impedes both an understanding of the phenomena and the efficient utilization of knowledge concerning occupational placement in our society.

Even a cursory review of relevant articles reveals ample evidence of terminological ambiguity, justifying the accusation made by Kuvlesky and Bealer.

Often in writing and research the terms "aspiration" and "plan" are used interchangeably. In several studies the dependent variable is identified as "educational aspiration", yet the data for analysis are taken from responses to questions concerning the education the student planned to obtain. The following excerpts illustrate this point.

> All students definitely planning to enter a regular four year college program or its equivalent were classified as having high

> educational aspirations (Sewell, Haller and Straus, 1957: 69).
>
> Measures on the dependent variable (educational aspirations) were obtained by asking each adolescent to read carefully the eight plans presented in Table 3 and then to indicate which one of them was most like what he was planning to do (Herriott, 1963: 166).

The titles of certain articles explicitly state that the studies dealt with "educational aspirations", but a close scrutiny of their contents reveals that the information obtained pertains to educational plans. The students' statements were categorized according to their plans for college, technical school, or no further education (Haller and Sewell, 1957: 408; Krauss, 1964: 868; Sewell and Shah, 1968a: 562 and 1968b: 194).

In Scanzoni's (1967: 452) study, occupational aspirations were obtained by asking what type of future occupation a student realistically expected to enter. Similarly, Middleton and Grigg (1959: 305) used the question "In what occupation do you think that you will most likely be working ten years from now?" to elicit occupational aspirations.

Some sociologists have taken exception to cases (such as those referred to above) where stimulus questions eliciting expectations or plans are used as indicators of aspirations and, in general, object to the equation of the terms involved. They have stressed the necessity of distinguishing (conceptually and empirically) between what a person wants (aspirations) and what a person expects to get (expectations or plans).

Advocates of this distinction have based their analytical approach on the contention (which has accrued some empirical confirmation) that aspirations represent the normative system ("the way things should be") while expectations reflect perception of the factual order ("the way things are") Mizruchi, 1964: 91). Proponents of this point of view suggest that adolescents, being cognizant of their life chances, can and do take reality factors into consideration, and that their statements of expectations more readily reflect these factors than their statements of aspiration. Consequently, they adhere to the opinion that studies which neglect to note actual expectations present a distorted depiction of the degree of realism inherent in the students' educational or occupational choices. Conversely, those that concentrate on plans alone ignore the "ideal" dimension (Empey, 1956; Stephenson, 1955 and 1957; Schwarzweller, 1959 and 1960; Simpson and Simpson, 1960; Morland, 1960; Mizruchi, 1964; Bennett and Gist, 1964; Breton and McDonald, 1968). In addition, Kuvlesky and Bealer (1966: 273) insist that expectations should not be equated with aspirations because the object involved with an expectation is an anticipated occurrence and, as such, need not be desired and, therefore, need not be a goal.

Several authors have specified certain elements they consider to be essential for the definition and measurement of aspirations.[5] As early as 1939, Lewin (1939: 868-897) distinguished between what he termed "real" and "ideal" aspirations, the former being what the person thought he might really be able to attain, and the latter what he hoped to attain providing all went well. Gardiner (1940: 66), however, restricted his definition of level of aspiration to "a quantitative indication which an individual makes concerning his future performance in an activity". According to Reissman (1953: 233 and 239), stimulus questions designed to determine aspirations should require the respondent to make a realistic assessment in reference to a future time period. Empey (1956), recognized mainly for his delineation of the difference between absolute and relative levels of aspiration, also noted discrepancies between preferred and anticipated occupational choices. The latter he referred to as "reality aspirations" (Empey, 1956: 487). By plans Stephenson (1957: 205) meant the "realistic expectation of the student for his future occupation, as opposed to his more "idealistic" aspiration. Simpson and Simpson (1960: 121) included a time element ("right now") in their question on occupational plans, but not in their question on aspirations which focused on a "fantasy" element. Gist and Bennett (1963: 43) asked their sample of students to state "the occupation they would like to have when they are 30 years old" and the occupation "they think they will actually have when they are 30 years old". Thus, the same time period was included in both questions.

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[5] For a descriptive account of the introduction and development of the term "level of aspiration" and a discussion of its use see Gardiner, 1940: 59-68 and Deutsch, 1954: 181-222. Pioneer studies endeavoring to elucidate the concept include: Chapman and Volkmann, 1939: 225-238 and Frank, 1935a: 119-128 and 1935b: 285-293.

From the preceding discussion four components, deemed necessary for consideration in the operationalization of the aspiration concept, can be extracted. These are: an ideal element, a real element and two time periods: the present or immediate future and the distant future. Haller and Miller (1964: 448-455; 1967: 39-50; 1971: 55-67), for example, have used four possible combinations of these components in the instrument they devised to measure level of occupational aspiration, the Occupational Aspiration Scale or OAS. It is this writer's contention that the narrowing of the term occupational choice to designate aspirations alone (Kuvlesky and Bealer, 1966: 267-268) and the employment of a four component conceptualization of occupational aspiration obscures the fact that occupational choice is the more comprehensive concept encompassing aspirations and expectations. Thus, as depicted in Figure 3, the four elements identified (aspiration, plan, past, future) are considered to be the components of an occupational choice or decision made at a particular moment in time. In essence, an occupational choice may be said to vary along two underlying dimensions: a reality dimension, which runs from real (expectations or plans) to ideal (aspirations or preferences) and a time dimension, which runs from past through present to future. It should be noted that because this schema is of a general nature it is equally applicable to educational choices or decisions but, given the problem at hand, occupational decisions will be focused on in the following discussion.

The interaction of these analytically separable components (especially aspirations and expectations) has been given a fair amount of attention in theoretical writings. According to Ford and Box (1967: 288), the various discussions have been converging around one major theme, namely, "the conception of a compromise between values and expectations." Hopes and desires are represented as eventually coming to terms with realities. It is asserted that the course of action on which an individual decides will reflect a compromise between aspirations (what he ideally would like to do) and expectations (what he realistically expects to do). Descriptive accounts of the nature of the compromise and how it is accomplished vary to a considerable extent. A number of suggestions have been advanced: role-playing (Super, 1953: 127-128); differentiation and integration (Tiedeman, 1961: 15-21); cognitive dissonance testing and reduction (Hilton, 1962: 294-298); and decisional range restriction (Hershenson and Roth, 1966: 368). The conception of a compromise suggests at least one method by which empirical inquiry can proceed (i.e., an assessment of the amount of consistency or, conversely, the degree of discrepancy between levels of occupational aspiration and expectation).

The preceding paragraphs have concentrated on describing the structure of vocational decisions (i.e., the components of Figure 3) and briefly sketching their workings. This discussion was limited to a somewhat static stance since, for analytical purposes, it was assumed that the decision-making or compromise procedure outlined was anchored at one point in time. It is, of course, an oversimplification to conceive of occupational choice as occurring at a single time point. More accurately, occupational choice should be conceptualized as a process involving or comprised of a series of several successive, interrelated decisions occurring over time. Setting the single decision (Figure 3) into perspective with respect to the sequential nature of career decision-making is represented symbolically in Figure 2, but requires further elaboration.

Note that the overall pattern of X's presented in Figure 2 is uneven. The single decisions were plotted in this fashion to show that vocational decision-making is an imperfect process at best. Certainly not as smooth and straightforward a means-end operation as some would have us believe. The contention that vocational choice simply unfolds as an orderly developmental sequence is also called into question. To begin with, the somewhat erratic placement of the X's indicates that the resultant tentative choice may be biased in the direction of one or more of the decisional components (e.g., it may be more ideal than real and/or more future oriented than concerned with the past).

At this juncture it is mandatory to expand upon the nature of the interrelatedness of the seemingly discrete decisions. In this matter, the present conceptual framework parallels the model advanced by Hilton (1962: 294-296) who, in turn, relies heavily on Festinger's (1957) concept of cognitive dissonance.

> Festinger stated that cognitive dissonance is a psychological tension arising out of a perceived inconsistency or contradiction between cognitive elements. These elements include knowledge and feeling that may be related to the individual or to his environment. Dissonance is an essentially uncomfortable state in which to be, and as soon as it occurs, attempts are made to reduce it; that is, to minimize or eliminate the incompatibility between the cognitive elements. (Breton, 1972: 21)

It is argued that individuals strive to maintain internal consistency and eventually arrive at a compromise position. This resultant synthesis or tentative choice (a sort of quasi-stable equilibrium) becomes one of the important input catalysts activating the next decision-making episode. Thus, that which is regarded as an end state at an earlier time often becomes a means in pursuit of a later goal. In addition to anticipations about the future, the after-effects of former decisions are present in current deliberations. It is in this sense that the vocational choice process can be described as "the accretion of a chain of decisions" (Hilton, 1962: 298) in the context of "gradual, accumulative socialization" (Moore, 1969: 872).

This conceptualization of a series of mini-reconciliations between aspirations and expectations over time implies that the integration attained is not unalterable or irreversible. There is always the possibility of new experiences and explorations disrupting the crystallizations reached at a particular point in time. Intra-individual or individual-environment interactions may necessitate adjustments and modifications that re-initiate decision-making. Revisions and retreats, such as the delayed and impaired decisions noted by LoCasio (1964: 885-887) and Breton (1972: 17) and the incidences of avoidance behaviour cited by Zytowski (1965: 746-750), are to be expected, although, without doubt, the documentation of advances tends to predominate.

Typically, in the literature, the theme of advancement is linked with the individual's psycho-social growth and progression through the life cycle. Several authors (e.g., Ginzberg et al., 1951; Miller and Form, 1951; Super, 1957) have delineated various stages or periods of occupational interest or activity. They suggest that a career evolves in a time pattern that is intimately associated with the evolution of other aspects of life. Changes in occupational interests and activities are seen as consequences of increased maturation or movement to another stage of the life cycle.

On the time line in Figure 2, there is a placement of a number of X's to indicate the series of decisions. For each individual the number of these decisions, and thus the density of the X's, varies. Empirically, it would be desirable to assess these decision-making processes at crucial stages in the individual's development. The information available from the present study confines consideration to two choice points (Grade 10 and Grade 12) during the adolescent period. The decisions made at these points in time are labelled tentative choices. Confronted with increased specialization and additional prerequisites for many occupations, individuals in contemporary society often postpone actual entrance into the labour force until their late twenties and even early thirties. Hence, the reference to "prolonged adolescence" in Figure 2.

With regards to the adolescent period, it has been pointed out that decisions are being made when young people tend to be experiencing emotional upheavals related to biological and social development. However, in addition to the multiplicity of subjective factors, a variety of extra-individual factors affect adolescent decision-making. In varying degrees, the family, peer group, school and community leave their mark. It is obvious that any study of vocational decision-making requires some specification of the context in which decisions are made. Such a specification is alluded to in Figure 2, where the last lines of the diagram suggest the expanding sphere of influence encountered by the adolescent. A considerable amount of effort, on the part of sociologists, has been directed toward identifying and examining the socio-cultural parameters constraining occupational choice. Very few, however, have addressed themselves to studying the consistency and congruity of levels of occupational aspiration and expectation. Before proceeding, a short summary of the conceptual framework presented thus far is in order.

In brief, it has been suggested that the vocational development process involves a complex interplay between subjective factors pertaining to individuals and their decision-making and objective factors that reflect the environmental context. The consideration of educational alternatives and occupational possibilities becomes a problem-solving or decision-making task of heightened salience during the adolescent years. In formulating their decisions, adolescents evaluate various courses of action focussing upon what they like and dislike about a variety of alternatives. In addition, however, adolescents assess their chances of reaching their desired goals. These appraisals consist of reflections upon personal assets and liabilities as well as perceived social opportunities and obstacles. Input into the decision also includes some crystallization of past and present experiences and projections or speculations with respect to the future. Their exposure to various influences and circumstances helps or hinders them in effecting a compromise between the decisional components. The amount of consistency between aspirations and expectations is one indication of whether or not balance has been achieved and the issue resolved, at least, temporarily. Moreover, the stability or instability of these tentative "choices" over time is thought to be a function of the adolescents' self-evaluations, the directives and responses (verbally and otherwise) of significant others, and the formal and informal influences of the adolescents' family, peer group, school and community.

As noted by a number of writers (e.g., Crites, 1969: 117-122; Breton, 1972: 8), the above mentioned decision may constitute a response that is partly conscious and partly unconscious, just as it may be more or less systematic.

> Receiving consistently low grades; being good in mathematics; liking literature; being told

> that you are not the 'salesman type', or that law would be too difficult; being a member of a subordinate ethnic or racial group; being admonished to aspire, above or below your station in life--all are experiences that convey certain messages to the adolescent in terms of the kind of person he is and what he could or should be aiming for in life (Breton, 1972: 8).

To be sure, adolescents are unaware of all the factors that affect their vocational evaluations and assessments. Nevertheless, in secondary school, adolescents make choices and engage in activities which have significant ramifications for subsequent educational and occupational decisions (for example, range of choice might be restricted). Thus, considering the scant attention this particular problem has received in past studies, it remains an important research task to identify and systematically analyze the factors that facilitate or foil the course of the occupational choice process.

The central premise animating the conceptual framework outlined so far contends that the way in which an adolescent integrates his occupational preferences (i.e., aspirations) with the practical plans he has with respect to an occupation (i.e., expectations) at one point in time (i.e., consistency) and the manner in which he brings them together over time (i.e., congruency) are determined by certain subjective and objective factors. Specifically, the dependency of the students' levels of occupational consistency at time one and time two and congruency on twenty-two measures of selected background factors is postulated. The students' levels of occupational consistency and congruency are thought to be influenced by leadership ability, expressive and instrumental educational and occupational values, educational and occupational opportunity orientations, family socioeconomic status, father's and mother's education, family size, father's and mother's educational and occupational encouragement, program in school, average marks, mental ability, community size, isolation and mobility orientation.

The independent variables examined in the present study may be grouped under the following four headings: self-related factors; family-related factors; school-related factors; and community-related factors. The general impact of these variables on occupational aspirations and expectations has been surveyed in the review of literature. Only findings and assumptions that suggest how they relate to consistency or congruity will be mentioned in conjunction with the presentation of the hypotheses.

Statement of Hypotheses

Self-related factors:

According to Breton (1972: 19 and 28) an individual's conceptual self-system consists of attitudes toward self (e.g., self-acceptance or self-esteem) and attitudes toward self in relation to the environment (e.g., value and opportunity orientations). Previous research indicates that individuals do take an inventory of themselves as part of their decision-making. Or, minimally, they have some perception of themselves, a self-image or self-concept. It also suggests awareness of significant characteristics of occupational roles and cognizance of the social structural constraints one must overcome to reach these roles (Hilton, 1962: 293; Moore, 1969: 864).

Several theories of vocational choice and development underscore the importance of the individual's self-concept in the decision-making process (e.g., Super, 1957; Holland, 1959). Occupational choice outcomes are represented, repeatedly, as attempts to attain an equilibrium between self-concept and the content of work roles. Several studies lend credence to this representation (Brophy, 1959; Englander, 1960; Blocher and Schutz, 1961; Warren, 1961; Morrison, 1962; Shiner, 1964; Oppenheimer, 1966; Wheeler and Carnes, 1968). Moreover, it has been asserted that the successful implementation of self-concept is likely to be a function of the degree of self-acceptance displayed by the individual. Feelings of inferiority and unworthiness are bound to restrict reality testing. Self-esteem studies suggest an association between "rejection by the individual of himself or doubts about his basic worthiness and adequacy" and "the experience of difficulties in the formulation of a career goal" (Breton, 1972: 35).

In addition to a global appraisal of self-concept, the self-related category of variables could include a very broad range of personal characteristics (e.g., interests, values, social perceptions, abilities). In commenting on the limitations of the Vocational Interest Blank as a predictor of occupational choice, Strong (1943: 30) made a distinction between preference and choice and listed some of the factors which cause choice to differ from preference.

> A number may be mentioned: (1) pressure of family or friends of family to enter a given

> vocation, to live near mother, etc.; (2) desire to marry, which handicaps further preparation for the preferred occupation; (3) an opportunity to become immediately established; (4) lack of necessary finances to finish education; (5) lack of necessary ability; (6) lack of necessary personality; (7) lack of requisite health; (8) lack of information about preferred and competing occupations so that adequate plans cannot be formulated (Strong, 1943: 30).

Similarly, Schwarzweller (1959: 246-256) anticipated differences in aspirations and expectations with respect to the manner in which they are related to value orientations and structural factors. Specifically, it was hypothesized that value orientations would be more important in aspiration situations, whereas structural factors would be more likely to affect planning situations. The study revealed that for educational orientation the functional importance of value orientations in the decision-making process seems to increase when moving from the aspiration stage to the more concrete plan stage. Schwarzweller (1959: 252) suggests that

> . . . it is due to the overwhelming public acceptance of education as a value per se. Hence most young people pay lip service to the desirability of education as a dominant cultural theme, when the theme is expressed in terms of hopes, dreams, or desirable goals. Approximately 76 per cent of the young people in this study expressed a positive aspiration to enter college. However, when a young person is asked to face the realistic situation in which structural factors intrude, the (sub) culturally acquired variant values become functionally more important. Only 55 per cent of the young people expressed a positive plan to enter college.

On the other hand, the occupational choice data suggested that the functional importance of values in decision-making diminishes as one approaches reality situations. This latter finding is consistent with existing theoretical arguments which state that social structural parameters affecting human activity augment in importance as the decision situation comes closer to actual implementation. In concluding this discussion, however, Schwarzweller (1959: 254) states that the apparent inconsistency between the educational choice and occupational choice sets of data warrants further clarification.

Even more pertinent to the problem at hand is Ginzberg's (1951) speculative explanation of deviant occupational choice patterns (i.e., to the extent that inconsistencies and incongruities in levels of occupational aspiration and expectation can be referred to as "deviant"). According to Ginzberg (1951: 209), deviations might be partially accounted for by personality dichotomies based on dominant values. In this scheme, "work-oriented", as opposed to "pleasure-oriented" persons, regard work as an intrinsically satisfying activity suitable for self-expression and self-actualization. Thus, work is considered, by these individuals,to be an end in itself, rather than a mere means to extrinsic rewards (e.g., money, prestige). This hypothesis was examined more closely by Breton (1972: 51) who, after assessing the work attitudes of Canadian students, reported that:

> . . . students who consider work inherently rewarding are less likely to be without a career goal than those who value it for its extrinsic benefits.

Discrepancies or inconsistencies in levels of aspiration and expectation may also be the result of a negative appraisal of opportunities or chances with respect to educational and occupational achievement. In assessing his own abilities, his family's financial resources, or current labour market trends, for example, the adolescent may be sensitized differences between what he would like to do and what he really must do, all things considered. Breton (1972: 51) found that Canadian students who envisioned a future with meagre opportunities (e.g., poor chances of success in post-secondary school, a high degree of anxiety about finding a job, and the feeling of having below average chances of getting a good one) were more likely to be plagued by vocational indecision.

The particular aspect of self-concept that concerns us is the students' appraisals of their leadership ability. This variable was measured by questionnaire responses indicating whether the students considered themselves to be above average, average or below average in leadership ability as compared to others in their class. Sharp and Kristjanson (1966: 25) have suggested that such responses may be viewed as "reflecting the self-image the student has developed in interaction with his peers."

In general, it has been asserted that an adolescent's attitudes toward self (i.e., appraisal of leadership ability) and self in relation to environment (i.e,, educational and occupational value and opportunity orientations) affect vocational decision-making. It follows that individuals experiencing problems with respect to the establishment of self-identity will also be hampered in the formation of a vocational identity. These difficulties with respect to vocational identity are likely to manifest themselves in inconsistencies between levels of occupational aspiration and expectation at one point in time and incongruities over time. Conversely, adolescents with favourable self-images, who have crystallized their likes and dislikes in terms of expressive, as opposed to instrumental, ends and are reasonably confident regarding their life chances are more likely to have levels of occupational aspiration and expectation that are consistent and congruent. In essence, it is hypothesized that the consistency and congruency of the students' levels of occupational aspiration and expectation will be

1) directly related to their appraisals of their leadership ability.
2) directly related to their expressive educational value orientations.
3) inversely related to their instrumental educational value orientations.
4) directly related to their expressive occupational value orientations.
5) inversely related to their instrumental occupational value orientations.
6) directly related to their educational opportunity orientations.
7) directly related to their occupational opportunity orientations.

Family-related factors:

The greatest concentration of research pertaining to familial influence is in studies dealing with child socialization. Perhaps in recognition of the fact that the family is simultaneously the matrix of personality formation and a basic determinant of social class position, students of stratification have been particularly interested in the relationships between class level and child-rearing practices. Research studies in the area have run the gamut from descriptions of specific feeding and training practices and their relation to achievement motivation

(Benedict, 1938; Davis and Havighurst, 1946; Sears, Maccoby and Levine, 1957; Bronfenbrenner, 1958 and 1963; Rosen and D'Andrade, 1959; Swinehart, 1963) to discussions of more general categories of parental influence, such as emotional support (Miller and Swanson, 1959), parental values (Aberle and Naegele, 1952; Kohn, 1959a and 1959b), and the motivational elements in family experience (Dynes, Clarke and Dinitz, 1956; Strodtbeck, 1958). Whereas Michelson (1968) studied the physical environment of the home as a mediating factor in school achievement, Rosen (1961), Turner (1962), and Parsons and Bales (1955) concentrated on structural correlates of ambition (for example, family size and birth order).

The above mentioned types of studies, along with other past endeavors to examine the influence of family factors on adolescents' educational and occupational achievement orientations, fall into two categories: "Those examining the structural characteristics of the family unit as indicators of its social and economic properties" and "those purporting to examine the influence of the social-psychological properties of the family milieu" (Sewell and Shah, 1968b: 191). Following this distinction, the present study examines the influence of objective family factors, such as the socio-economic status of the student, levels of parental educational achievement, and family size, and subjective family factors, such as parental encouragement for educational and occupational attainment.

Perhaps the most widely researched variable in sociological circles is socio-economic status. George and Kim (1971: 355), for example, have stated that

> . . . social class background could be regarded as the variable that is most studied in relation to one's educational aspiration.

A number of relatively recent empirical investigations have discovered class differentials with respect to educational orientations. Likewise, considerable evidence also indicates that parental socio-economic status, however measured, is closely related to their children's occupational aspirations and plans. It may be said that research results generally support the hypothesis that the higher the family's socio-economic status, the higher the child's levels of educational and occupational aspiration and expectation. Some authors have asserted that the working class are less ambitious both for themselves and for their children. Others, however, have argued that there is little difference between class aspiration levels. Thus, the argument of differential motivation has been challenged by those who emphasize the existence of limited opportunities. In essence, "two conflicting themes" or competing perspectives on societal stratification have been employed to account for social class differences in occupational goals (Wan, 1969: 679). One is that there are differences in the evaluation of the relative values assigned by adolescents to various occupations. The other argues that both middle class and working class youth agree on the relative desirability and prestige of various occupations, and that differences in goals stem, not primarily from values, but from class-associated perceptions of differences in opportunities and general life chances (Stephenson, 1955: 34 and 1957: 212; Empey, 1956: 487; Bronfenbrenner, 1958: 61-66; Morland, 1960: 171-175; Weiner and Murray, 1963: 319; Bennett and Gist, 1964: 167-173; Bender et al., 1967: 278; Scanzoni, 1967: 456; Lueptow, 1968: 306; Conger, 1973: 382).

In sum, several studies in the area of stratification research have reported sizeable social class differences in aspirations, expectations and eventual achievements. It has been found that adolescents from higher status families, in contrast to their lower class counterparts, are more inclined to want and plan to attain high educational and occupational goals. However, the findings of other researchers have not substantiated the assertion that lower class respondents have lower aspiration levels. In some studies, it has been demonstrated that children from lower socioeconomic status families aspire to and achieve high educational and occupational goals despite the limitations imposed on them by virtue of their social class background. Thus, it is evident that although a considerable amount of research effort has been expended examining the effect of socioeconomic status on achievement orientations, studies often yield divergent and sometimes contradictory results and interpretations. The vast majority of studies have neglected to look at aspirations and expectations together. Those that do have noted, but not examined in detail, differences between the two measures and how they relate to other variables. The results of a few notable exceptions to this research trend (e.g., Empey, 1956; Stephenson, 1957; Bennett and Gist, 1964) imply that differences in levels of aspiration and expectation are greater for lower class than middle or upper class members. The present study proposes that inconsistencies or discrepancies between levels of occupational aspiration and expectation may be indicative of an individual's awareness of restricted opportunities or constraining circumstances and, as such, are likely to be inversely related to socio-economic status.

There appears to be fairly consistent findings to the effect that parents' levels of educational attainment are positively related to the educational and occupational aspirations and expectations of their children. The majority of studies reviewed concur with respect to the suggestion that children of well educated parents have higher aspirations than children of poorly educated parents (Slocum, 1956 and 1958: 12-13; Youmans, 1956; Floud and Halsey, 1958: 184; Simpson and Simpson, 1960: 119; Belanger, 1961; Porter, 1961: 188; Bertrand, 1962: 230; Christiansen, 1962; Herriott, 1963: 159; Sewell, 1963: 18; Siemens, 1965: 66-68; Siemens and Driedger, 1965: 35; Sharp and Kristjanson, 1966: 18; Bowles and Slocum, 1968: 8; Sewell and Shah, 1968b: 191; Krecsy, 1970: 126-128).

Breton's (1972: 70, 86) study of Canadian students revealed that educational background of parents was not related to vocational indecision, but that family size and level of parental aspiration for children were associated with the formulation of a career goal among boys and girls. Students from large families were more likely to be without a career goal than those from small families. Similarly, students who lacked encouragement towards their goal were more likely to be experiencing difficulties. This latter finding is certainly not surprising in view of our knowledge of the importance of the expectations of significant others and the research evidence attesting to the importance of the parental push toward higher education and occupational achievement.

In light of the preceding discussion, the following hypotheses are advanced with respect to the influence of family-related variables. It is hypothesized that the consistency and congruency of the students' levels of occupational aspiration and expectation will be

8) directly related to the socio-economic status of their family.

9) directly related to the level of their fathers' educational attainment.

10) directly related to the level of their mothers' educational attainment.

11) inversely related to the size of their family.

12) directly related to their fathers' encouragement for continuing education.

13) directly related to their mothers' encouragement for continuing education.

14) directly related to their fathers' encouragement for occupational achievement.

15) directly related to their mothers' encouragement for occupational achievement.

School-related factors:

It is generally acknowledged that the role of the school with respect to vocational choice is particularly significant during adolescence. It is within the school context that the adolescent performs (academically and socially), is evaluated and participates in a variety of activities that have direct and indirect consequences for educational and occupational achievement. More specifically, the literature is replete with references to the school's function as a sorting and allocation agency for society (e.g., Parsons, 1961; Turner, 1961; Cicourel and Kitsuse, 1963). Thus, what happens to the adolescent in the school system, the choices he makes and the activities he undertakes, can be expected to affect the course of his vocational decision-making and its eventual outcome in terms of a position in society's stratification system.

A number of school-related variables, such as the expectations of various school personnel (Herriott, 1963), attitudes toward school, studies and self (Boyle, 1966a), academic achievement (Sewell et al., 1970), and the status consequences of extra-curricular activities (Spady, 1970), have been implicated in the general occupational attainment process. The school-related variables selected for examination in the present study are: program in school, average marks attained in Grade 10 and 11 subjects and mental ability.

It is recognized by most sociologists and educators that the amount and type of education that a person receives is closely related to the type of occupation he eventually enters (Miller, 1960: 117). The training offered by various educational institutions is diverse. Therefore, progress through the educational system requires that some choice in relation to type of training, and hence, type of occupation, be made by individuals passing through the system. Indeed, the dominant educational philosophy underlying the system of differentiated programs is that such programs should facilitate educational streaming whereby a student's desires, interests and abilities are linked with the appropriate choice of educational future.

Within the schools sampled, the courses offered were grouped into three programs of study: university entrance, commercial-vocational, and general. Regarding career preparation, the three programs vary in terms of job training orientation. The commercial-vocational program consists primarily of "basic", "practical" subjects and concentrates on transmitting specific skills thought to be amenable to occupational entry. The university entrance program, on the other hand, is aimed at providing students with a more general academic grounding and is designed to prepare students for post-secondary education. The general program represents a combination of university entrance and commercial-vocational courses. At first glance, it would seem logical to assume that vocational specificity is linked with vocational decision-making; that is, the more occupationally oriented the educational program, the easier the formulation of career goals. Past research (e.g., Coleman, 1961; Gordon, 1957; Breton, 1972) has alerted us to yet another, and possibly overriding consideration. These studies have noted the existence of internal stratification systems based on implicit and explicit ranking of academic programs. The following quotation illustrates this point.

> Even though study programmes correspond to areas of knowledge, they are also ranked against each other in terms of the types of students who enroll in them; their desirability from a teaching standpoint and the individual teacher's status in the profession; the prestige attached to membership in each of them; and the career possibilities open to those who are participating (Breton, 1972: 90).

Parallels have been drawn between the stratification systems in the schools and those of society at large. As Porter (1973: 463) has suggested:

> Schools are very much the creatures of the societies in which they are found, reflecting and reinforcing the interests, powers, and inequalities that exist.

Given the prevalence of this type of emphasis on program ranking and the attendant differences in student opportunities and expectations of educators, the largest gaps between aspiration and expectation are most likely manifest in "lower prestige" programs (i.e., general and commercial-vocational rather than university entrance).

Hypothetically, academic difficulties (as indicated by low marks) may also be conducive to discrepant aspirations and expectations. The employment of grades as criteria of occupational performance, is a practice that has been disputed by some (Borow, 1964). Nevertheless, it is to be noted that although the student is attuned to the prominent role the occupational environment will play in his future, it is the present educational environment in which he must prove himself. Thus, the school provides a current context for a certain amount of reality testing. Regardless of how a student arrives at his occupational choice, he must carry out certain steps in relation to the educational system to implement his choice. Failing this, he is forced to alter either or both his occupational or educational plans. The progress an individual has made and that which he hopes to make can be compared and the plausibility of his occupational aspirations checked. In as much as marks may be considered indicators of progress in the academic sphere, it is anticipated that students with higher averages are less likely to have inconsistent and incongruent levels of aspiration and expectation. In sum, it is hypothesized that the consistency and congruency of the students levels of occupational aspiration and expectation will be

16) directly related to the prestige rank of their program in school.

17) directly related to their average marks in Grade 10 and 11 subjects.

18) directly related to their mental ability scores.

Community-related factors:

The category of community-related variables utilized in the present study includes: size of community, isolation of community, and student's mobility orientation.

Several studies have documented rural-urban differentials in educational and occupational aspirations, expectations and attainment (Slocum, 1956; Burchinal, 1961; Cowhig and Nam, 1961; Rogoff, 1961; Sewell, 1964; Sewell and Orenstein, 1965; Siemens and Driedger, 1965; Sharp and Kristjanson, 1966). Typically, the larger, more urbanized, and more economically developed the community of residence, the higher the levels of aspiration, expectation and attainment.

Similarly, Breton (1972: 71) found the size of community of residence to be weakly associated with lack of a career goal; with smaller communities having a slightly larger proportion of undecided than the larger. Interestingly, Ralston's (1974: 1) longitudinal study of the career aspirations of 391 Nova Scotia secondary school students found that career indecision was not associated with migrant status. Moreover, congruence between aspirations and attainment, though weak in general, was greatest among migrants. These findings suggest that students residing in larger, more urban communities have advantages (e.g., accessibility to post-secondary educational institutions) that students in smaller, more isolated communities do not enjoy when it comes to vocational decision-making. Thus, students residing in smaller, more isolated communities are more likely to experience differences between what they would like to do and what they have to do. Tangentially, the results cited above also imply that students who are willing to leave their community of residence are more likely to have a crystallized career goal which they are pursuing. In view of the findings discussed in this section, it is hypothesized that the consistency and congruency of the students' levels of occupational aspiration and expectation will be

19) directly related to the size of their community of residence.

20) inversely related to the isolation of their community of residence.

21) directly related to their geographical mobility orientations.

Cultural factors:

Research has consistently revealed sex differences in educational and occupational values (Ginzberg, 1951; Singer and Stefflre, 1954; Rosenberg, 1957; Dipboye and Anderson, 1959; Schwarzweller, 1959 and 1960; Gribbons and Lohnes, 1965; Wagman, 1965; Thompson, 1966), opportunity orientations (Elder, 1963; Zavalloni, 1968), aspirations (Haller and Sewell, 1957; Sewell, Haller and Straus, 1957; Herriott, 1963; Gottlieb and Ramsey, 1964; Siemens, 1965; Pavalko and Bishop, 1966) and expectations (Stephenson, 1957; Porter, 1961 and 1965; Sewell and Shah, 1968a and 1968b). In general, it has been observed that boys tend to stress the extrinsic rewards derived from work, whereas girls consider the chance to help people and serve society to be of prime importance; that boys tend to be more optimistic in their outlook on the opportunity structure than girls; and that, in both the educational and occupational spheres, boys aspire to and expect to attain higher levels of achievement than girls.

Henshel (1973: 60) has pointed out that the above mentioned differentials are not a matter of intelligence. There are indications that many girls would like to become professionals but realistically appraise the social climate and conclude that, instead, they will become clerks. This assertion is supported by Breton and McDonald's (1971: 189-190) finding that, although only 13% of third and fourth year high school girls preferred non-professional jobs, 23.3% assumed that this is where they would eventually be. Similarly, 52.1% preferred professional and technical positions but only 42.8% expected to reach that level.

In view of the differences found in previous studies when data have been stratified by sex, it was considered mandatory to analyze the boys' and girls' data separately. It is anticipated that the separate analysis made for males and females will provide an opportunity to observe whether or not similar relationships between independent and dependent variables hold for both sexes. In addition, it will be possible to determine whether or not

> 22) the male students' levels of occupational aspiration and expectation are more consistent and congruent than those of the female students.

Chapter IV

METHODOLOGY

This chapter presents information on the construction and administration of the research instruments, the operationalization and measurement of the independent and dependent variables and a comment on the methods of analysis employed.

Source of the Data

The sample studied may be delineated as all students registered in the twelfth grade in the five selected single enterprise communities, who were present on the day(s) the questionnaires were administered.

The present study was conducted under the auspices of the Center for Settlement Studies, University of Manitoba and was part of an interdisciplinary research program organized for the purpose of gathering information on a variety of aspects of life in single enterprise communities along Canada's northern resource frontier (Siemens, 1970:2). In keeping with the overall aims and objectives of the larger project, the final phase focused its concern on examining the socio-cultural correlates of educational and occupational achievement orientations of twelfth grade students residing in five single enterprise communities in northern Manitoba and Ontario. Random selection procedures or province-wide sampling were not employed precisely because the context of the achievement orientations to be studied was specified.

The term "single enterprise community" designates a town or city so dominated by a single, basic, economic enterprise that the practical existence of that community depends in large part on its continuance.

Perhaps the chief characteristic of a single enterprise "company town" is that a major proportion of its population is employed by one enterprise. Moreover, in a single enterprise community the service industries are auxiliary entities, heavily dependent on the major enterprise for their subsistence. This is due to the fact that such a large proportion of the market they reach is employed by the same dominant enterprise.

It can be argued that the above mentioned definitive factors are too restrictive and too severe, but an endeavor should be made to grasp the general emphasis given by this "survival type" definition. To be sure, some single enterprise communities could survive the closing of their mine or mill, however, their fundamental functioning would be severely threatened and inevitably impaired. It is contended that the resultant community would be either so depleted in facilities or different in economic structure that, in a sociological sense, it would constitute a "new" community, a "new" and essentially different context for educational and occupational attainment.

The single enterprise communities selected for consideration in this study were: Flin Flon, Lynn Lake, Pine Falls, and Thompson, Manitoba and Red Lake, Ontario.

Each of the five communities studied depends upon a single and basic economic enterprise. In addition, four of the five communities are situated in relatively isolated sections of the country.

Pine Falls, Manitoba, is the least remote geographically and, with a population of 1,245, it is also the smallest community studied. The town is 85 miles north-east of Winnipeg and is easily accessible by paved road and railway. The Abitibi Manitoba Paper Company controls the community's pulp and paper industry employing a minimum of approximately 400 individuals with a maximum employment figure of about 2,000 during the cutting season.

Lynn Lake, Manitoba, is the most remote geographically, being 700 miles north of Winnipeg. Transportation is provided by rail and airlines but the community is not accessible by road. The town of 2,350 people is supported by the mine operated by Sherritt-Gordon Mines Limited where 725 persons are employed.

Red Lake, Ontario, is a community of 2,510 persons, 175 miles north of Kenora, Ontario, and 140 miles from Dryden. Five major mining companies operate producing mines in the vicinity of Red Lake. These companies employ approximately 1,000 people.

Flin Flon, Manitoba, a community of 10,220 persons, is approximately 550 miles north-west of Winnipeg and is accessible by paved highway. The town is serviced by rail, bus and airlines. Approximately 2,000 persons in Flin Flon and 1,100 in adjacent mines are employed by the Hudson Bay Mining and Smelting Company.

The largest community studied, Thompson, Manitoba had an estimated population of 15,000 in 1968 but informal reports indicate that the population is now closer to 22,000. The settlement is 700 road miles (the final 250 miles has a gravel surface), and 400 air miles, north of Winnipeg. Train, bus, and air service provide ample transportation for the community. The basic industry is mining and the International Nickel Company employs over 3,000 workers.

Data Acquisition

The data necessary for this study were obtained by the questionnaire method. Questionnaires were administered to students in Grade 10 (1969) and again in Grade 12 (1971). Thus, measures for the dependent variables were obtained at two points in time. The interval separating the two sets of measurements is two years. The requisite information was available for 262 students (132 male, 130 female).

The Questionnaire

The Student Questionnaire (1971) is comprised of three parts (see Appendix A). The initial section contains questions designed to obtain information on selected individual and social factors (e.g., leadership ability, family socio-economic status, parental educational levels, community of residence and perceived parental encouragement for continuing education and for occupational achievement). The second section of the questionnaire is directed toward discerning the students' educational values, opportunity orientations, aspirations and expectations. The third section consists of questions on the students' occupational values, opportunity orientations, aspirations and expectations.

Operationalization of Independent Variables

1. Leadership ability was measured by questionnaire responses indicating whether the students considered themselves to be below average, average or above average in leadership ability as compared to others in their class. The code scores assigned ranged from a low of 1 (below average or negative appraisal) to a high of 3 (above average or positive appraisal).

2. An expressive educational value-orientation is defined as the empirically measured tendency to react favorably or unfavorably to a generalized conception of education as an end in itself. As shown in Figure 4, the expressive educational values category includes liberal educational or self-fulfillment aims (items b and e) and socio-humanistic aims (items d and g).

FIGURE 4

Expressive-Instrumental Categorization of the Educational and Occupational Values

Educational Values	Occupational Values
Instrumental:	Instrumental:
a) To help me achieve a secure way of life	a) Stable, secure future which this occupation provides
c) To help me get a good paying job and become economically independent	c) Chance to earn a good deal of money
f) To obtain prestige and a high social position in the community	f) The high social status and prestige provided by this occupation
h) To develop the knowledge and skills applicable to a career	h) The amount of leisure time this occupation provides (good working hours and holidays)
Expressive:	Expressive:
b) To develop my mind and enable me to formulate my own ideas, beliefs and values	b) Chance to use my special skills and abilities
d) To develop the ability to get along with people	d) Chance to work with people rather than alone or with things
e) To help me understand myself better	e) Chance to be creative and original
g) To help me become a good citizen in my community	g) Chance to help others and contribute to society

3. An _instrumental educational value-orientation_ is defined as the empirically measured tendency to react favorably or unfavorably to a generalized conception of education as a means to further ends, such as the attainment of a career (item h), a secure way of life (item a), a good income (item c) and prestige (item f).[6]

4. An _expressive occupational value-orientation_ is defined as the empirically measured tendency to react favorably or unfavorably to a generalized conception of work (or the type of career it offers) as an end in itself. As shown in Figure 4, the expressive occupational values category focuses on self-expression (items b and e), interpersonal relations (item d) and service to society (item g).

5. An _instrumental occupational value-orientation_ is defined as the empirically measured tendency to react favorably or unfavorably to a generalized conception of work as a means for attaining external rewards, such as security (item a), a good salary (item c), prestige (item f), leisure (item h); that is a concern with the rewards to be obtained _for_ work rather than the gratification to be derived _from_ the work.

Instrumentation of the Value Variables:

In the question designed to elicit expression of educational values, the respondents were presented with a list of eight statements identified in an introductory sentence as "the various purposes an education serves." The students were asked to indicate how important they considered each statement to be in describing what they wanted to get out of an education (see Appendix A, Student Questionnaire, p. 6, #20).

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[6] As pointed out by Meier (1970:75), there exists a commonsense logic in which getting an education may be seen as necessarily "instrumental" to some post-educational end. Likewise, the actual process through which an education is obtained may be appreciated expressively as a life experience in and for itself. The intent here, however, is to take the educational purpose or objective as the value-laden point of reference. Thus, the educational aims are viewed in terms of anticipated goal states which may be valued primarily in and for themselves _or_ in terms of goal states that are primarily adaptive to post-educational realities, that is education as a means for attaining further socially desirable rewards, e.g., income and social standing.

In the question designed to elicit expression of occupational values, the respondents were presented with a list of eight items identified in an introductory sentence as "characteristics people look for when choosing an occupation." The students were asked to indicate how important they considered each characteristic to be when choosing an occupation (see Appendix A, Student Questionnaire, p. 9, #32).

On the basis of a review of relevant literature and the results of past research endeavors, the items comprising the educational and occupational value sets were categorized in accordance with the generalized expressive-instrumental distinction. As shown in Figure 4, four items in each value set were classified as expressive (items b, d, e, g) and four as instrumental (items a, c, f, h). Since the students' expressive and instrumental educational and occupational value scores were derived in the same manner, the general procedure employed will be described with reference to the educational values only.

The respondents were asked to indicate the importance of each of the eight items comprising the educational value set by circling a number from 1 to 9, with 1 indicating "very unimportant" to 9 indicating "very important." Thus, the respondents rated each item on a nine-point scale; the higher the rating, the more important the item. The random order of item presentation utilized in the questions is designated by the letters accompanying the items in Figure 4. The respondents' ratings of each of the four items pre-coded as being indicators of expressive educational aims (items b, d, e, g of the educational value set) were summed to obtain their expressive educational value scores. Similarly, the respondents' ratings of each of the four items pre-coded as being indicators of instrumental educational aims (items a, c, f, h) were summed to obtain their instrumental educational value scores. The same procedure was employed with the respondents' ratings of the items in the occupational value set to arrive at their expressive and instrumental occupational value scores. The total scores, thus derived, indexed the respondents' value orientations. Operationally, the higher the expressive score, the more expressive the value orientation; the higher the instrumental score, the more instrumental the value orientation. The possible range for these total or summated scores was from a low of 4 (if a respondent rated the four items 1 each) to a high of 36 (9 each).

6. An educational opportunity orientation is defined as: the student's subjective perception of his (her) opportunities for obtaining the education he (she) wants.

7. An occupational opportunity orientation is defined as: the student's subjective perception of his (her) opportunities for obtaining the occupation he (she) wants.

Instrumentation of the Opportunity Orientations:

In the question designed to elicit the respondents' appraisals of educational opportunities, the students were asked to indicate how good they thought their opportunities were for obtaining the education they wanted (see Appendix A, Student Questionnaire, p. 4, #15).

In the question designed to elicit the respondents' appraisals of occupational opportunities, the students were asked to indicate how good they thought their opportunities were for obtaining the occupation they wanted (see Appendix A, Student Questionnaire, p. 7, #25).

For both the educational and occupational opportunity questions, the respondents were asked to check the appropriate category from among the following: very good; good; not too good; poor; non-existent. The code scores assigned ranged from a low of 1, which corresponded with the poor and non-existent categories combined, to a high of 4, which corresponded with the very good category. Operationally, the higher the score, the more positive or optimistic the opportunity orientation.

8. Socio-economic Status

Data for the assessment of familial socio-economic status were taken from a question regarding the present occupation of the student's father. The occupation that the students ascribed to their fathers was rated according to Blishen's (1967:41-53) Socio-Economic Index for Occupations in Canada. It was from Blishen's (1967:41-53) list of 320 occupations ranked in terms of education, income and prestige, with scores ranging from 25.36 for trappers and hunters to 76.69 for chemical engineers, that socio-economic scores were assigned to the students' statements of their fathers' occupations.

9. and 10. Parental Educational Attainment

The variables father's education and mother's education refer to the highest levels of fathers' and mothers' educational achievement as reported by the students. In separate questions for their mother and father, respondents were asked to check the appropriate category from among the following: some grade school; completed grade school; some high school; completed high school; completed high school and also had other training (fathers - for example: technical training; mothers - for example: business course, teacher training); some university; university graduate; some graduate work; graduate degree (M.D., M.A., Ph.D., etc.). The code scores assigned ranged from a low of 1 for the first category to a high of 8 for the last category. The category "some graduate work" was omitted because it did not apply to any of the students' parents.

11. Family Size

This was indexed by the student's responses to questions on the number of older and younger brothers and sisters he (she) had.

12. and 13. Parental Encouragement for Continuing Education

The variables father's encouragement for continuing education and mother's encouragement for continuing education were based on the students' responses to five statements intended to record their perceptions of the strength of encouragement received from their parents regarding the continuation of their education. In separate questions for their father and mother, the students were asked to indicate if each parent had strongly encouraged them to continue; had given them some encouragement to continue; had encouraged them to graduate from high school and then go to work; had encouraged them to quit school now and work; or had never said much about it. The degree of encouragement was scored: 1 indicating no encouragement for continuing education ("never said" and "quit now"), 2 indicating some encouragement ("encouraged them to graduate from high school" and "given them some encouragement to continue") and 3 indicating strong encouragement ("strongly encouraged them to continue").

14. and 15. Parental Encouragement for Occupational Achievement

The variables father's encouragement for occupational achievement and mother's encouragement for occupational achievement were based on the students' responses to five statements intended to record their perceptions of the strength of encouragement received from their parents regarding occupational achievement. In separate questions for their father and mother, the students were asked to indicate if each parent wanted them to get a very good job, wanted them to get a job that is better than most jobs in their community; wanted them to get a job that is as good as most jobs in their community; has never said much about it; or does not care what kind of job they go into. The code scores assigned were: 1 indicating no encouragement for occupational achievement ("never said" and "does not care"), 2 indicating some encouragement ("wanted them to get a job that was as good as, or better than, most jobs in their community") and 3 indicating strong encouragement ("wanted them to get a very good job").

16. Program in School

The students were asked to indicate whether they were taking a Commercial, General, University Entrance or any other (e.g., Combined General and University Entrance) program of studies. For the girls, the code scores were 1 (Commercial), 2 (General, Combined General and University Entrance) and 3 (University Entrance). None of the boys were taking a Commercial course so their code scores were 0 (General, Combined General and University Entrance) and 1 (University Entrance).[7]

17. Average Marks

The students were asked to indicate their average marks in Grade 10 and Grade 11 subjects. It was possible for them to check one of nine categories with code scores ranging from 1 (mostly F's) to 9 (mostly A's).

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[7] Dichotomized measures included in the analysis are treated as "dummy variables" (Boyle, 1970; Nie et al., 1975).

18. Mental Ability

The mental ability scores were obtained from Department of Education records. The I.Q. test administered by the Department of Education to all Grade IX students in Manitoba is known as the "Quick Scoring Group Test of Learning Capacity - Advanced - Grade X to Adult."[8]

19. Community Size

The communities were ranked directly according to population size. The rank-scores assigned to each community are as follows: Pine Falls (1 - Smallest), Lynn Lake (2), Red Lake (3), Flin Flon (4), Thompson (5 - Largest).

20. Community Isolation

For an assessment of the relative isolation of the communities involved, the writer relied on the Index of Isolation developed for these specific single enterprise communities during the initial phase of the project. The rankings assigned to the communities were composite scores representing a variety of factors including accessibility in terms of transportation, presence of highways, actual geographic remoteness, that is, distance from inhabited areas of the country and communication facilities available in the community (Peach, 1970: 42; Krecsy, 1970: 68-69). The rank-scores assigned to each community with reference to relative isolation are as follows: Pine Falls (1 - Least isolated), Flin Flon (2), Thompson (3), Red Lake (4), Lynn Lake (5 - Most isolated).

21. Geographical Mobility Orientation

This was indexed by the student's respone (0 - yes; 1 - no) as to whether or not he (she) would like to work in his (her) present community after completing his (her) education.

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[8] This test was devised by the Ontario College of Education and copyrighted in 1958 by the Ontario Department of Education, Toronto (Siemens, 1965: 53).

Operationalization of Dependent Variables

The specific dependent variables used in the present study are comprised of differing combinations of the following variables. Thus, their definitions and operationalizations are dealt with first.

Level of Occupational Aspiration (LOA) is defined as: the student's statement of the occupational level he (she) would like to reach.

Level of Occupational Expectation (LOE) is defined as: the student's estimation of the occupational position he (she) will actually attain.

Instrumentation of Occupational Aspiration (LOA) and Expectation (LOE)

The Occupational Aspiration Scale (OAS) is an eight item forced-choice instrument. It is comprised of items eliciting responses at two expression levels, realistic (R) and idealistic (I), each at two goal-periods, referred to as career periods in this context, short range (S - end of schooling) and long range (L - at age 30). These yield four combinations: RS, IS, RL, and IL, which are incorporated into four wordings for questions. Each of these four questions is presented twice, thus giving a total of eight OAS items (Miller and Haller, 1964: 448).

The question wordings are presented in Figure 5 (also see Appendix A, Student Questionnaire, p. 9-11, #23). The numbers in parentheses in Figure 5 indicate the question numbers in which each item-wording is used. The letters in parentheses refer to the combination of expression levels and goal-ranges for each question.

Each of the eight stimulus questions of the OAS is followed by a set of ten occupational titles, which constitute its response alternatives.

FIGURE 5

OAS Format: Combination of Expression Levels and Goal-Periods for Each of the Four Question-Wordings*

Expression levels	Goal-Periods	
	Short-range (S)	Long-range (L)
Idealistic (I)	Of the jobs listed in this question, which ONE would you choose if you were FREE TO CHOOSE ANY of them you wished when your SCHOOLING IS OVER? (2 and 4)	Of the jobs listed in this question, which ONE would you choose to have when you are 30 YEARS OLD, if you were FREE TO HAVE ANY of them you wished? (6 and 8)
Realistic (R)	Of the jobs listed in this question, which is the BEST ONE you are REALLY SURE YOU CAN GET when your SCHOOLING IS OVER? (1 and 3)	Of the jobs listed in this question, which is the BEST ONE you are REALLY SURE YOU CAN HAVE by the time you are 30 YEARS OLD? (5 and 7)

* (Haller and Miller, 1967: 45).

FIGURE 6

Distribution of Prestige Scores of Occupational Titles for Each OAS Item*

Order of Presentation	Score
1	7
2	4
3	8
4	2
5	9
6	0
7	6
8	3
9	5
10	1

* (Haller and Miller, 1967: 47).

The occupational titles were selected from the ninety occupations ranked by the National Opinion Research Center's study of the prestige of occupations (NORC, 1947: 3-13). In all, eighty occupations are used (eight stimulus questions by ten alternatives per question). Each occupation is presented as a possible response only once among the eight items. It was necessary to make minor adjustments in the occupations used in the scale because all of the original are not applicable in Canada. In four cases comparable Canadian positions were substituted, for example, "Provincial Premier" was used in place of "State Governor" (Kristjanson, 1967: 8).

Each of the eight items is scored in the same way. There are ten alternatives for each question and only one alternative may be checked. On the OAS form Haller and Miller (1964: 454) placed the prestige ranks for each set of ten alternatives in a non-hierarchical distribution to insure that the order of presentation would not correspond to the order of prestige. The same order of presentation is used for each set of response alternatives. Figure 6 shows the re-arrangement of prestige scores and the corresponding scores for each of the ten response alternatives. Each set of ten occupational alternatives spans the entire range of occupational prestige and is scored from zero to nine. Operationally, an item score of nine means that the respondent has chosen the highest prestige occupation in the item, while an item score of zero indicates that he has chosen the lowest prestige occupation. The sum of all eight item scores is taken as the individual's level of occupational aspiration as measured by the OAS. The total score, which may range from zero to seventy-two, may be interpreted simply as a relative indicator of the prestige level on the occupational hierarchy which an individual views as a goal (Miller and Haller, 1964: 454).

In addition to an overall index of occupational aspiration, it is possible to obtain subscores for each of the four dimensions (RS, IS, RL, IL). For the purposes of the present study, the realistic OAS subscores are combined to index level of occupational expectation (LOE) and the idealistic OAS subscores are combined to index level of occupational aspiration (LOA).

Having defined and operationalized the two above mentioned variables, it is now necessary to define and operationalize the terms consistency and congruency.

Consistency refers to the degree of similarity or amount of agreement between level of aspiration and level of expectation. The procedure employed is one of comparing the student's level of occupational aspiration with his (her) level of occupational expectation at one point in time (e.g., T_1 = Grade 10). A student whose LOA at T_1 is the same as his (her) LOE at T_1 is considered to have consistent occupational aspirations and expectations.

More specifically, a difference score is calculated (LOA minus LOE) and the resultant score (i.e., consistency score) is utilized as an indicator of the amount of agreement between occupational aspirations and expectations. The same procedure is repeated in order to examine the consistency of levels of aspiration and expectation at T_2 (Grade 12).

Congruency refers to the degree of similarity or amount of agreement between:

levels of occupational aspiration at T_1 and T_2

Levels of occupational expectation at T_1 and T_2

Level of occupational aspiration is utilized to illustrate the procedure. The same procedure is followed for level of occupational expectation.

The procedure employed is one of comparing the student's level of occupational aspiration at T_1 with his (her) level of occupational aspiration at T_2. A student whose LOA at T_2 (Grade 12) is the same as his (her) LOA at T_1 (Grade 10) is considered to have congruent occupational aspirations. More specifically, a difference score is calculated (LOA at T_2 minus LOA at T_1) and the resultant score (i.e., a congruency score) is utilized as an indicator of the amount of agreement between levels of occupational aspiration at T_1 and T_2.

In sum, the dependent variables used in the present study are:

1. Level of Occupational Consistency at Time One which is defined as the degree of similarity or amount of agreement between the student's level of occupational aspiration and level of occupational expectation in Grade 10. This is indexed by a T_1 occupational consistency score (i.e., LOA at T_1 minus LOE at T_1).
2. Level of Occupational Consistency at Time Two which is defined as the degree of similarity or amount of agreement between the student's level of occupational aspiration and level of occupational expectation in Grade 12. This is indexed by a T_2 occupational consistency score (i.e., LOA at T_2 minus LOE at T_2).
3. Level of Occupational Expectation Congruency which is defined as the degree of similarity or amount of agreement between the student's tenth grade level of occupational expectation and his (her) twelfth grade level of occupational expectation. This is indexed by an occupational expectation congruency score (i.e., LOE at T_2 minus LOE at T_1).

4. Level of Occupational Aspiration Congruency which is defined as the degree of similarity or amount of agreement between the student's tenth grade level of occupational aspiration and his (her) twelfth grade level of occupational aspiration. This is indexed by an occupational aspiration congruency score (i.e., LOA at T_2 minus LOA at T_1).

Method of Analysis

As indicated in the review of literature, past attempts to identify socio-cultural factors associated with occupational aspiration and attainment have resulted in the delineation of a number of relevant variables to be considered in theoretical formulations about, and empirical research on, the occupational choice process. These continued endeavors to enumerate important variables have made attempts at meaningful syntheses exceedingly difficult. There appeared to be a need for a means of evaluating the overall contribution of a set of independent variables and a means of evaluating the contribution of a particular independent variable with the influence of other independent variables controlled. The technique of multiple regression is useful for these purposes. The fundamental assumptions associated with multiple regression analysis are presented in Figure 7.[9]

Most often multiple regression is employed

1. to find the best linear prediction equation and evaluate its prediction accuracy;
2. to control for other confounding factors in order to evaluate the contribution of a specific variable

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[9] The data necessary to examine some of the main assumptions are contained in Appendix B.

Figure 7

The Assumptions of Multiple Regression Analysis*

Basic assumptions.

1. Independent variables are related in a linear fashion with the dependent variable and among themselves.
2. Effects of independent variables can be added together to yield a prediction of the dependent variable.
3. Independent variables are not correlated.
4. All variables are interval-level variables.

Added assumptions if one is interested in running statistical tests of hypotheses about a population from sample data.

5. The dependent variable is normally distributed within categories of independent variables, singly and in combination.
6. The variance in the dependent variable is equal across categories of the independent variables.

Added assumptions if multiple regression analysis is to be applied to testing causal models of the relationship between variables.

7. The theoretical ordering of independent and dependent variables should be known and such that independent variables change first and dependent variables later.
8. The set of independent and dependent variables should be inclusive of all (major) variables influencing the dependent variables. That is, it should be a closed system.
9. Measures should have demonstrated reliability and validity.
10. Disturbance terms (error terms) should be uncorrelated with each other or with independent variables directly connected to the same variable.

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* Assumptions should be taken seriously and consequences of departures from one assumption upon the importance of other assumptions is the subject of debate and inquiry in the field. The interval-level measurement assumption, for example, can be handled in some cases for even nominal-level variables by using what are called "dummy variables." The "no-intercorrelation among independent variables" assumption is usually interpreted to mean "low intercorrelation" (low multicollinearity), but checking and caution are needed where there are small departures. It may also be the case that the theoretical idea of variables related in a simple, linear fashion is intrinsically interesting as a model (or first model) of some aspect of the social world. In this case, the results of a regression analysis would be interesting, even though all of the regression assumptions may not fit the world particularly well.

(Adapted from Loether and McTavish, 1974: 308).

or set of variables; and,

3. to find structural relations and provide explanations for seemingly complex multivariate relationships, such as is done in path analysis (Nie et al., 1975; 321).

The data analysis in the present study is based on the first two uses of multiple regression mentioned above. Multiple regression is employed both as a means of evaluating the contribution of each independent variable with the influence of the other independent variables controlled and as a means of evaluating the overall contribution of the independent variables. Initially, partial regression or beta coefficients are used as measures of the influence of each independent variable, on the four dependent variables examined separately, with adjustments made for the other independent variables. These partial beta values (B) are used to test the hypotheses. Also, an attempt is made to determine the amount of variation in each of the dependent variables that is accounted for or explained by dependence upon the independent variables operating jointly. The coefficient of multiple determination (R^2) provides a measure of the proportion of the variation in a dependent variable which has been explained by the multiple regression equation. The respective coefficients of multiple determination for each of the four dependent variables included in the study are assessed. Thus, the partial beta coefficients and the coefficients of multiple determination resulting from the requisite sets of multiple regression equations for the male and female students form the bases for the presentation and discussion of findings in the chapters to follow.

In addition an extension of the analysis is included to provide insights regarding interrelationships among the independent variables. This segment of the analysis is considered to be exploratory and preliminary insofar as it is confined to a presentation of the pattern of effects among the common antecedents of the four dependent variables. The intent is to provide an initial step in the direction of path analytical procedures.

Chapter V

PRESENTATION AND DISCUSSION OF FINDINGS

Introduction

As has been pointed out, the basic objective of this study is to examine empirically some of the factors affecting the consistency and congruency of vocational decisions made by high school students. This chapter contains the data that are directly relevant to the testing of the hypotheses advanced earlier.

More specifically, this chapter is comprised of two main sections: the first deals with the presentation of the findings and the second is devoted to a discussion of significant findings. These two major sections are subdivided, in turn, into two parallel parts. Initially, findings from the hypotheses testing procedure are presented and then findings from an extension of the analysis are reported. Similarly, the first part of the discussion section focuses on advancing plausible explanations for the results of hypotheses testing; whereas, the second part pertains to the extension of the analysis and, thus, contains comments on the pattern of relationships among the independent variables.

The general format for the tables used to present the findings is as follows. The dependent variable being considered appears at the top of the table, with the independent variables and the respective zero-order and multiple correlations and partial regression coefficients contained in the columns. While all zero-order correlations are listed, the partial regression coefficients for those independent variables found to make negligible contributions to the explained variance in the dependent variables are omitted. The results are presented separately for the male and the female students.

The correlation coefficients (r's) provided in each table are referred to as "zero-order" because no controls for the influence of other variables were made in the correlation analyses. In addition to the correlational analyses, separate multiple regression analyses were run on the boys' and girls' data. As stated in the preceding chapter, regression analysis allows for systematic statistical testing to determine whether an independent variable contributes significantly to the explanation of the variation in the dependent variable, while controlling for the influence of the other independent variables. Thus, in multiple regression, as is the case here, each partial regression or beta coefficient (B) represents the impact of the independent variable upon the dependent variable, when all other independent variables in the equation are held constant. This tells us the impact that each independent variable has over and above the effects of the remaining independent variables (Johnson, 1977: 141). In the present analysis each of the twenty-one independent variables was tested in succession against the dependent variables, with the effects of the other twenty controlled. The resulting partial regression coefficients indicate the relative importance of the selected background factors in predicting levels of occupational consistency and congruency (cf. Peach, 1970:51). Capital B's are used to represent the Greek letter "beta" because standardized partial regression coefficients or beta weights are being reported and employed for the purpose of hypotheses testing. In addition, for each table, the multiple correlation coefficients (R) and the coefficients of multiple determination (R^2) are included. A multiple correlation coefficient squared (R^2) provides an estimate of the proportion of variation in the dependent variable explained by the linear combination of specific independent variables (Loether and McTavish, 1974: 325).

Note that the twenty-two hypotheses derived in Chapter III actually represent four sets of related hypotheses: namely, those applicable to consistency at time one (Grade 10), those applicable to consistency at time two (Grade 12), those applicable to congruency and those concerning sex differences. These four sets of hypotheses are tested, in order, in the following pages.

Findings re: Hypotheses Predicting Consistency at Time One

The relationships between level of occupational consistency at time one and each of the independent variables for boys and girls are shown in Table 1. With respect to this dependent variable for the male students, the independent variables "instrumental occupational values" and "paternal occupational encouragement" make the greatest contributions to the variance explained. The boys who have high instrumental occupational value scores and fathers whose occupational encouragement is strong, tend to have the most inconsistent levels of occupational aspiration and expectation at time one.

By way of explanation, it should be mentioned that the variable "paternal occupational encouragement" is based on the students' reports of the amount of occupational encouragement given to them by their fathers. Since the student report material is impressionistic, the possibility exists that the male students subjected to strong paternal encouragement perceived their father's statements and suggestions as pressure and thus, tend to register a larger discrepancy between idealistic (what they would like to do) and realistic (what they expect to do) levels of occupational accomplishment. This finding will be examined more closely in the discussion section.

For the girls, the regression coefficients suggest that five variables are important: leadership ability, expressive educational values, instrumental occupational values, paternal educational encouragement and community isolation. In the context of the present study, this means that the more positive the girls' evaluation of their leadership ability, the higher their expressive educational and instrumental occupational value scores, and the more isolated their community of residence, the more consistent their levels of occupational aspiration and expectation. However, the stronger the

TABLE 1

Zero-order and Multiple Correlations and Standardized Regression Coefficients of Selected Background Factors and Level of Occupational Consistency at Time One by Sex.

	Level of Occupational Consistency at Time One			
	Boys		Girls	
	r	B	r	B
Leadership ability	-.049	...	-.287[c]	-.316[c]
Educational values: Expressive score	-.017	...	-.115	-.213[a]
Educational values: Instrumental score	.042	-.077	-.038	.129
Occupational values: Expressive score	.010	-.060	-.046	.069
Occupational values: Instrumental score	.217[b]	.279[a]	-.139[a]	-.259[a]
Educational opportunities	-.091	-.058	-.011	-.125
Occupational opportunities	-.093	.044	.040	.052
Father's occupation	-.132	-.064	.060	-.074
Father's education	-.204[b]	-.132	.052	-.044
Mother's education	.118	.140	.064	.076
Family size	.085	.103	-.014	.058
Parental encouragement: Education: Father	-.147[a]	-.177	.244[b]	.297[b]
Parental encouragement: Education: Mother	-.108	-.031	.121	-.028
Parental encouragement: Occupation: Father	.029	.293[a]	.044	...
Parental encouragement: Occupation: Mother	-.133	-.175	-.012	...
Program in school	-.159[a]	-.035	.140[a]	.056
Average mark: Grade 10 and 11	-.201[b]	-.128	.039	.087
Mental ability	-.233[b]	-.109	-.016	.060
Community size	-.162[a]	-.160	-.072	-.054
Community isolation	-.108	-.023	-.158[a]	-.180[a]
Mobility	.083	.152	-.042	-.117
Multiple R	.527		.510	
R^2	.277		.260	

a Correlation or beta weight significant at .05 level.
b Correlation or beta weight significant at .01 level.
c Correlation or beta weight significant at .001 level.

paternal educational encouragement, the more inconsistent the girls' levels of occupational aspiration and expectation at time one. This finding resembles the one reported regarding the relationship between paternal occupational encouragement and the boys' levels of occupational consistency. A similar interpretation, which suggests that father's encouragement tends to be perceived as pressure and be conducive to discrepant levels of occupational aspiration and expectation, might be advanced.

The amount of variation accounted for in the dependent variable is similar for the boys and girls, 27.7 percent and 26 percent, respectively.

In sum, it may be said that, for the tenth grade boys, the results presented in Table 1 lend support to Hypothesis 5a. The relationship discovered between the boys' instrumental occupational values and their levels of occupational consistency is as predicted; namely, the less instrumental the boys' occupational values, the more consistent their levels of occupational aspiration and expectation. The association found between fathers' occupational encouragement and the boys' levels of occupational consistency is not in the hypothesized direction.

For the tenth grade girls, the data at hand support Hypotheses 1a and 2a. The results show that the more positive the girls' appraisals of their leadership ability and the more expressive their educational values, the more consistent their levels of occupational aspiration and expectation. Three additional associations were found, but their direction differed from that hypothesized. More specifically, the data show that the less instrumental their occupational values, the stronger their father's educational encouragement and the less isolated their community of residence, the more inconsistent the girls' levels of occupational aspiration and expectation.

Having presented the findings pertaining to occupational consistency at time one (tenth grade), we turn now to a consideration of consistency at time two (twelfth grade).

Findings re: Hypotheses Predicting Consistency at Time Two

In Table 2 the relationships between the selected background factors and levels of occupational consistency at time two are presented for boys and girls. As indicated in Table 2, five of the background factors serve as significant determinants of the boys' levels of occupational consistency. These are: leadership ability, instrumental occupational values, father's and mother's educational encouragement and father's occupational encouragement. The boys with favourable appraisals of their leadership ability and fathers whose educational encouragement is strong have the most consistent levels of occupational aspiration and expectation at time two. On the other hand, those with high instrumental occupational value scores, strong maternal educational encouragement and strong paternal occupational encouragement tend to have inconsistent levels of occupational aspiration and expectation. For this dependent variable, the independent variable "maternal educational encouragement" can be seen to make the largest contribution to the variance explained. On the basis of the above mentioned finding, it appears that those boys whose mothers strongly encourage them to achieve a higher education tend to have the most inconsistent levels of occupational aspiration and expectation at time two. Note that the findings with respect to instrumental occupational values and father's occupational encouragement are the same at time one and time two.

According to the regression coefficients contained in Table 2, average marks and community size have the most pronounced impact on the girls' levels

TABLE 2

Zero-order and Multiple Correlations and Standardized Regression Coefficients of Selected Background Factors and Level of Occupational Consistency at Time Two by Sex.

	Level of Occupational Consistency at Time Two			
	Boys		Girls	
	r	B	r	B
Leadership ability	-.213^{b}	-.171^{a}	-.165^{a}	-.106
Educational values: Expressive score	-.073	-.055	-.133	-.160
Educational values: Instrumental score	.050	-.042	-.049	-.071
Occupational values: Expressive score	-.038	-.144	.043	.103
Occupational values: Instrumental score	.151^{a}	.217^{a}	.026	.058
Educational opportunities	-.104	-.031	-.176^{a}	-.026
Occupational opportunities	-.138^{a}	...	-.222^{b}	-.163
Father's occupation	-.090	-.087	-.080	-.135
Father's education	.021	.171	.026	.095
Mother's education	-.011	-.111	-.025	...
Family size	.059	.138	-.033	-.013
Parental encouragement: Education: Father	-.126	-.322^{b}	-.005	.061
Parental encouragement: Education: Mother	.128	.323^{b}	.016	...
Parental encouragement: Occupation: Father	-.030	.215^{a}	.007	.117
Parental encouragement: Occupation: Mother	-.124	-.102	-.078	-.155
Program in school	-.212^{b}	-.086	.004	.053
Average mark: Grade 10 and 11	-.192^{b}	-.076	-.233^{b}	-.247^{a}
Mental ability	-.154^{a}	-.097	-.012	.095
Community size	-.008	.027	-.156^{a}	-.237^{a}
Community isolation	.032	-.030	-.109	-.076
Mobility	-.054	.082	.073	...
Multiple R	.480		.466	
R^2	.231		.217	

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a Correlation or beta weight significant at .05 level.
b Correlation or beta weight significant at .01 level.
c Correlation or beta weight significant at .001 level.

of occupational consistency. Specifically, the higher the girls' average marks and the larger their community of residence, the more consistent their levels of occupational aspiration and expectation at time two.

For the boys, 23.1 per cent of the variation in their levels of occupational consistency is accounted for by the background factors. Similarly, for the girls, these factors explain 21.7 per cent of the variance in their levels of occupational consistency at time two.

In essence, for the twelfth grade boys, the results presented in Table 2 lend credence to Hypotheses 1b, 5b and 12b. As anticipated, the more positive the boys' appraisals of their leadership ability, the more consistent their levels of occupational aspiration and expectation. Also, the association observed between the boys' instrumental occupational values and their levels of occupational consistency is as predicted in Hypothesis 5b. As was the case at time one, the less instrumental the boys' occupational values, the more consistent their levels of occupational aspiration and expectation. In addition, as hypothesized, the consistency of the boys' levels of occupational aspiration and expectation at time two was found to be directly related to their fathers' encouragement for continuing education. However, the relationships discovered between mother's educational encouragement and the dependent variable and between father's occupational encouragement and the dependent variable run counter to the direction posited in Hypotheses 13b and 14b, respectively.

For the twelfth grade girls, the results support Hypotheses 17b and 19b which state that the higher their average marks and the larger their community of residence, the more consistent the girls' levels of occupational aspiration and expectation.

Having presented the findings pertaining to occupational consistency at time two (twelfth grade), we turn now to a consideration of expectational and aspirational congruency.

Findings re: Hypotheses Predicting Congruency

The next two tables to be described focus on congruency; that is, the interplay between levels of expectation over time (Table 3) and levels of aspiration over time (Table 4).

Table 3 presents the relationships between the selected background factors and level of occupational expectation congruency. Three significant determinants were revealed by the regression analysis of the boys' data. These are: mother's education, community size and the male students' mobility orientations. Moreover, the regression results suggest that instrumental occupational values, average marks and mental ability significantly affect the girls' levels of occupational expectation congruency. Taken together, the independent variables account for 27.7 per cent of the variation in the boys' levels of occupational expectation congruency and 16.6 per cent for the girls.

Table 4 presents the relationships between the selected background factors and level of occupational aspiration congruency. Scrutiny of the regression coefficients reveals that, for the boys, instrumental educational values and mother's educational encouragement have a decided impact on this dependent variable. For the girls, three independent variables qualify as significant determinants, namely: father's educational and occupational encouragement and mental ability. On the whole, 17.6 per cent of the variation in boys' levels of occupational aspiration congruency and 19.2 per cent of the variation in girls' levels of occupational aspiration congruency is explained

TABLE 3

Zero-order and Multiple Correlations and Standardized Regression Coefficients of Selected Background Factors and Level of Occupational Expectation Congruency

	Level of Occupational Expectation Congruency			
	Boys		Girls	
	r	B	r	B
Leadership ability	.154[a]	.111	-.009	-.067
Educational values: Expressive score	.115	...	.050	.016
Educational values: Instrumental score	.160[a]	.107	-.005	.099
Occupational values: Expressive score	.146[a]	.062	-.036	.013
Occupational values: Instrumental score	.111	.070	-.118	-.263[a]
Educational opportunities	-.052	-.114	.069	-.043
Occupationl opportunities	.017	.062	.136	.116
Father's occupation	-.034	-.032	.102	.050
Father's education	-.120	-.153	.035	-.047
Mother's education	.103	.171[a]	.098	.086
Family size	-.041	-.027	.122	.108
Parental encouragement: Education: Father	.083	.109	.036	-.088
Parental encouragement: Education: Mother	-.035	-.157	-.001	.016
Parental encouragement: Occupation: Father	.163[a]	.121	.089	.115
Parental encouragement: Occupation: Mother	.083	-.046	.080	.113
Program in school	.101	.142	.000	-.079
Average mark: Grade 10 and 11	.049	-.017	.138[a]	.239[a]
Mental ability	-.212[b]	-.155	-.141[a]	-.232[a]
Community size	-.260[c]	-.219[a]	.062	.187
Community isolation	-.191[b]	-.040	-.040	-.067
Mobility	.228[b]	.174[a]	.001	.026
Multiple R	.526		.407	
R^2	.277		.166	

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a Correlation or beta weight significant at .05 level.
b Correlation or beta weight significant at .01 level.
c Correlation or beta weight significant at .001 level.

TABLE 4

Zero-order and Multiple Correlations and Standardized Regression Coefficients of Selected Background Factors and Level of Occupational Aspiration Congruency

	Level of Occupational Aspiration Congruency			
	Boys		Girls	
	r	B	r	B
Leadership ability	.008	-.046	.107	.132
Educational values: Expressive score	.078	-.073	.032	.063
Educational values: Instrumental score	.206[b]	.181[a]	-.019	-.097
Occupational values: Expressive score	.126	...	.052	.056
Occupational values: Instrumental score	.065	...	.037	.031
Educational opportunities	-.079	-.111	-.099	.051
Occupational opportunities	-.029	.027	-.125	-.096
Father's occupation	.005	-.063	-.033	-.014
Father's education	.103	.144	.014	.090
Mother's education	-.018	-.064	.017	.031
Family size	-.079	...	.114	.048
Parental encouragement: Education: Father	.126	-.025	-.213[b]	-.330[b]
Parental encouragement: Education: Mother	.220[b]	.198[a]	-.107	.036
Parental encouragement: Occupation: Father	.134	.061	.062	.257[a]
Parental encouragement: Occupation: Mother	.112	.020	.018	-.040
Program in school	.065	.115	-.138[a]	-.088
Average mark: Grade 10 and 11	.069	.037	-.132	-.086
Mental ability	-.172[a]	-.177	-.154[a]	-.213[a]
Community size	-.147[a]	-.062	-.023	...
Community isolation	-.079	-.058	-.000	.029
Mobility	.128	.130	.120	.144
Multiple R	.420		.438	
R^2	.176		.192	

a Correlation or beta weight significant at .05 level.
b Correlation or beta weight significant at .01 level.
c Correlation or beta weight significant at .001 level.

by the background factors.

For the boys, the findings presented in Tables 3 and 4 partially support Hypotheses 3d and 19c. The association observed between the boys' instrumental educational values and their levels of occupational aspiration congruency is as predicted in Hypothesis 3d. This means that the less instrumental the boys' educational values, the more congruent their levels of occupational aspiration over time. In addition, the data support Hypothesis 19c with reference to levels of occupational expectation congruency. This hypothesis states that the larger the boys' community of residence, the more congruent their levels of occupational expectation over time. The relationships found between mother's education and the boy's levels of occupational expectation congruency and between mobility orientation and their levels of occupational expectation congruency are in directions opposite to those hypothesized. Similarly, the direction of the association between mother's educational encouragement and the boys' levels of occupational aspiration congruency is not as anticipated.

For the girls, the results give some support to Hypotheses 12d and 18c and d. It was found, in accordance with Hypothesis 12d, that the stronger their fathers' educational encouragement, the more congruent the girls' levels of occupational aspiration over time. As predicted in Hypothesis 18c and d, the higher the girls' mental ability scores, the more congruent their levels of occupational expectation over time and their levels of occupational aspiration over time. The relationships found between the girls' instrumental occupational values and their levels of occupational expectation congruency and between the girls' average marks and their levels of occupational expectation congruency are in directions different from those hypothesized.

Likewise, the direction of the relationship between father's occupational encouragement and the girls' levels of occupational aspiration congruency is not as predicted.

Findings re: Hypotheses Predicting Sex Differences in Consistency and Congruency

In order to test these hypotheses, correlational analysis was used to generate indicators of consistency. For the boys, a positive correlation was found between their levels of occupational aspiration and expectation ($r = .37$, $S = .001$) at time one (Grade 10). Similarly, at time two (Grade 12), a positive relation was revealed between the boys' levels of occupational aspiration and expectation ($r = .41$, $S = .001$).

The findings for the female students parallel those reported for the males. For the girls, a positive association was found between their levels of occupational aspiration and expectation ($r = .35$, $S = .001$) at time one. Likewise, at time two, a positive correlation was evident between the girls' levels of occupational aspiration and expectation ($r = .40$, $S = .001$).

Table 5 was constructed to present a more detailed depiction of occupational consistency. Table 6 is included in order to elaborate on specific aspects of Table 5.

Table 5 presents information pertaining to the consistency of the students' levels of occupational aspiration and expectation at time one and time two. It will be recalled that, operationally, level of occupational consistency was arrived at by subtracting the occupational expectation score from the occupational aspiration score. Table 5 shows that only 5 per cent of the boys and 2 per cent of the girls registered complete consistency at time one. Similarly, for both boys and girls, 4 per cent indicated no difference between their levels of occupational aspiration and expectation at time two. These figures, as they stand, suggest that an overwhelming majority of the students have inconsistent levels of occupational aspiration and expectation. However, it should be remembered that the realistic (range: 0 - 36) and idealistic (range: 0 - 36) segments of the Occupational Aspiration Scale (Haller and Miller, 1971:63) were used to index the students' levels of occupational expectation and aspiration, respectively. Thus, a score of 36 represents maximum inconsistency. That is, the occupational consistency scores range from 0 (consistent) to 36 (most inconsistent). The categorization of the occupational consistency scores into three levels is shown in Table 6. Utilizing Table 6, it can be seen that 61 per cent of the boys and 65 per cent of the girls have less than eleven scale points difference between their levels of occupational aspiration and expectation at time one. On the whole, these figures suggest that the students' levels of occupational aspiration and expectation are actually fairly consistent at time one. At time two, this trend continues for the boys, but for the girls inconsistency increases. Note the shift in the second category (11 - 20) from 29 per cent in Grade 10 to 41 per cent in Grade 12.

Having examined the question of sex differences with respect to the consistency of levels of occupational aspiration and expectation at time one and time two, we turn now to a comparison of the boys' and girls' levels of expectation and aspiration congruency.

Initially, as was the case with consistency, correlation coefficients were employed to give some indication of the amount of association between levels of occupational expectation over time and between levels of occupational aspiration over time. For the boys, moderate positive relationships were found between their levels of occupational expectation at time one and time

TABLE 5

Consistency of Levels of Occupational Aspiration (LOA) and Expectation (LOE) at Time One and Time Two by Sex.

	Level of Occupational Consistency T_1				Level of Occupational Consistency T_2			
	Boys		Girls		Boys		Girls	
	N	%	N	%	N	%	N	%
Consistent	6	5	2	2	5	4	5	4
Inconsistent	126	95	128	98	127	96	125	96
A ≥ E*	110	83	116	89	107	81	120	92
E ≥ A**	16	12	12	9	20	15	5	4
Total	132	100	130	100	132	100	130	100

* Aspirations "higher than" expectations.
** Expectations "higher than" aspirations.

TABLE 6

Consistency Scores of Levels of Occupational Aspiration (LOA) and Expectation (LOE) at Time One and Time Two by Sex.

	Level of Occupational Consistency T_1				Level of Occupational Consistency T_2			
	Boys		Girls		Boys		Girls	
	N	%	N	%	N	%	N	%
Consistent								
0	6	4	2	1	5	4	5	4
Inconsistent								
1 - 10	80	61	84	65	83	63	61	47
11 - 20	41	31	38	29	39	29	54	41
21 - 30	5	4	6	5	5	4	10	8
Total	132	100	130	100	132	100	130	100

two (r = .40, S = .001) and between their levels of occupational aspiration at time one and time two (r = .31, S = .001). Similarly, for the girls, positive correlations were found between their levels of occupational expectation at time one and two (r = .36, S = .001) and between their levels of occupational aspiration at time one and time two (r = .33, S = .001). For the most part, the findings for the female students parallel those reported for the males. In addition, the correlation coefficients cited above suggest a certain amount of variability in the students' levels of expectation over time and their levels of aspiration over time.

In order to examine the stability and change trends in greater detail Table 7 was constructed. Table 8 is included to expand upon certain aspects of Table 7. More specifically, information on the congruency of the students' levels of occupational expectation and their levels of occupational aspiration is contained in Table 7. It will be recalled that the level of occupational expectation congruency was obtained by subtracting the level of occupational expectation at time one from the level of occupational expectation at time two. In the same way, level of occupational aspiration at time one was subtracted from level of occupational aspiration at time two to arrive at the students' levels of occupational aspiration congruency. Table 7 reveals that only 9 per cent of the boys and 5 per cent of the girls registered complete congruency with respect to levels of occupational expectation over time. For both boys and girls, 8 per cent indicated exactly the same levels of occupational aspiration in Grade 10 and 12. Again, at first glance, these figures imply that the vast majority of students have incongruent levels of occupational expectation and incongruent levels of occupational aspiration. However, if Table 8 is used in conjunction with Table 7, it can be seen that this conclusion must

TABLE 7

Congruency of Levels of Occupational Expectation (LOE) and Aspiration (LOA) by Sex.

	Level of Occupational Expectation (LOE)				Level of Occupational Aspiration (LOA)			
	Boys		Girls		Boys		Girls	
	N	%	N	%	N	%	N	%
Congruent	12	9	7	5	11	8	11	8
Incongruent	120	91	123	95	121	92	119	92
Raised	58	44	50	39	61	46	70	54
Lowered	62	47	73	56	60	46	49	38
Total	132	100	130	100	132	100	130	100

TABLE 8

Congruency Scores of Levels of Occupational Expectation (LOE) and Aspiration (LOA) by Sex.

	Level of Occupational Expectation (LOE)				Level of Occupational Aspiration (LOA)			
	Boys		Girls		Boys		Girls	
	N	%	N	%	N	%	N	%
Congruent								
0	12	9	7	5	11	8	11	8
Incongruent								
1 - 10	94	71	101	78	109	83	109	84
11 - 20	25	19	20	15	12	9	9	7
21 - 30	1	1	2	2	0	0	1	1
Total	132	100	130	100	132	100	130	100

be qualified. Consulting the tri-level categorization of congruency scores, it is observed that 71 per cent of the boys and 78 per cent of the girls have less than eleven scale points difference between their levels of occupational expectation at time one and two. Similarly, 83 per cent of the boys and 84 per cent of the girls have less than eleven scale points difference in the levels of occupational aspiration they state in Grade 10 and those they express in Grade 12. This additional information suggests that the students' levels of occupational expectation and their levels of occupational aspiration remain relatively congruent. In addition, note that occupational expectation and aspiration congruency patterns are similar for boys and girls.

In essence, the data presented support Hypotheses 22a and 22c. As predicted in Hypothesis 22a, a slightly larger percentage of male students, as compared with female students, had consistent levels of occupational aspiration and expectation. At time two, however, exactly the same percentages of male and female students had consistent levels of occupational aspiration and expectation. This finding runs counter to Hypothesis 22b. As anticipated by Hypothesis 22c, more male students than female students had congruent levels of occupational expectation. Not in accordance with Hypothesis 22d was the finding that the percentages of boys and girls with congruent levels of occupational aspiration were the same.

Summary

The various associations revealed in the regression analyses are summarized in Tables 9 and 10. Those relationships that were found to be in the directions predicted, and thus considered to support the hypotheses in question, are summarized in Tables 11 and 12.

TABLE 9

Summary of the Standardized Regression Coefficients of Selected Background Factors and Levels of Occupational Consistency at Time One and Time Two by Sex.

			Occupational Consistency Time One			Occupational Consistency Time Two	
	Hypotheses:	Hyp:	Boys	Girls	Hyp:	Boys	Girls
1	Leadership ability	1a		-.316	1b	-.171	
2	Expressive educational values	2a		-.213	2b		
3	Instrumental educational values	3a			3b		
4	Expressive occupational values	4a			4b		
5	Instrumental occupational values	5a	.279	(-.259)	5b	.217	
6	Educational opportunities	6a			6b		
7	Occupational opportunities	7a			7b		
8	Father's occupation	8a			8b		
9	Father's education	9a			9b		
10	Mother's education	10a			10b		
11	Family size	11a			11b		
12	Father's educational encouragement	12a		(.297)	12b	-.322	
13	Mother's educational encouragement	13a			13b	(.323)	
14	Father's occupational encouragement	14a	(.293)		14b	(.215)	
15	Mother's occupational encouragement	15a			15b		
16	Program in school	16a			16b		
17	Average marks	17a			17b		-.247
18	Mental ability	18a			18b		
19	Community size	19a			19b		-.237
20	Community isolation	20a		(-.180)	20b		
21	Mobility	21a			21b		
	Coefficient of Determination, R^2		.277	.260		.231	.217

( ) - Indicates relationship in direction opposite to that hypothesized.

TABLE 10

Summary of the Standardized Regression Coefficients of Selected Background Factors and Levels of Occupational Expectation and Aspiration Congruency by Sex.

Hypotheses:	Hyp:	Occupational Expectation Congruency Boys	Occupational Expectation Congruency Girls	Hyp:	Occupational Aspiration Congruency Boys	Occupational Aspiration Congruency Girls
1 Leadership ability	1c			1d		
2 Expressive educational values	2c			2d		
3 Instrumental educational values	3c			3d	.181	
4 Expressive occupational values	4c			4d		
5 Instrumental occupational values	5c		(-.263)	5d		
6 Educational opportunities	6c			6d		
7 Occupational opportunities	7c			7d		
8 Father's occupation	8c			8d		
9 Father's education	9c			9d		
10 Mother's education	10c	(.171)		10d		
11 Family size	11c			11d		
12 Father's educational encouragement	12c			12d		-.330
13 Mother's educational encouragement	13c			13d	(.198)	
14 Father's occupational encouragement	14c			14d		(.257)
15 Mother's occupational encouragement	15c			15d		
16 Program in school	16c			16d		
17 Average marks	17c		(.239)	17d		
18 Mental ability	18c		-.232	18d		-.213
19 Community size	19c	-.219		19d		
20 Community isolation	20c			20d		
21 Mobility	21c	(.174)		21d		
Coefficient of Determination, R^2		.277	.166		.176	.192

( ) - Indicates relationship in direction opposite to that hypothesized.

TABLE 11

Hypotheses Predicting Consistency

			Occupational Consistency Time One			Occupational Consistency Time Two	
	Hypotheses:	Hyp:	Boys	Girls	Hyp:	Boys	Girls
1	Leadership ability	1a		S	1b	S	
2	Expressive educational values	2a		S	2b		
3	Instrumental educational values	3a			3b		
4	Expressive occupational values	4a			4b		
5	Instrumental occupational values	5a	S		5b	S	
6	Educational opportunities	6a			6b		
7	Occupational opportunities	7a			7b		
8	Father's occupation	8a			8b		
9	Father's education	9a			9b		
10	Mother's education	10a			10b		
11	Family size	11a			11b		
12	Father's educational encouragement	12a			12b	S	
13	Mother's educational encouragement	13a			13b		
14	Father's occupational encouragement	14a			14b		
15	Mother's occupational encouragement	15a			15b		
16	Program in school	16a			16b		
17	Average marks	17a			17b		S
18	Mental ability	18a			18b		
19	Community size	19a			19b		S
20	Community isolation	20a			20b		
21	Mobility	21a			21b		
22	Sex differences	22a	S	S	22b		

S - Indicates support for hypothesis.

TABLE 12

Hypotheses Predicting Congruency

			Occupational Expectation Congruency			Occupational Aspiration Congruency	
Hypotheses:		Hyp:	Boys	Girls	Hyp:	Boys	Girls
1	Leadership ability	1c			1d		
2	Expressive educational values	2c			2d		
3	Instrumental educational values	3c			3d	S	
4	Expressive occupational values	4c			4d		
5	Instrumental occupational values	5c			5d		
6	Educational opportunities	6c			6d		
7	Occupational opportunities	7c			7d		
8	Father's occupation	8c			8d		
9	Father's education	9c			9d		
10	Mother's education	10c			10d		
11	Family size	11c			11d		
12	Father's educational encouragement	12c			12d		S
13	Mother's educational encouragement	13c			13d		
14	Father's occupational encouragement	14c			14d		
15	Mother's occupational encouragement	15c			15d		
16	Program in school	16c			16d		
17	Average marks	17c			17d		
18	Mental ability	18c		S	18d		S
19	Community size	19c	S		19d		
20	Community isolation	20c			20d		
21	Mobility	21c			21d		
22	Sex Differences	22c	S	S	22d		

S - Indicates support for hypothesis.

An examination of Tables 9 and 10 indicates which independent variables appear most often in the regression results. For the boys, instrumental occupational values, maternal educational encouragement and paternal occupational encouragement lead the list. These three are followed by leadership ability, instrumental educational values, mother's education, father's educational encouragement, community size and the male students' mobility orientations. For the girls, the following variables predominate: instrumental occupational values, father's educational encouragement, average marks and mental ability. These first four are followed closely by leadership ability, expressive educational values, father's occupational encouragement, community size and community isolation.

Thus, the hypotheses advanced at the outset of the study have been only partially supported by the findings outlined above. For a detailed delineation of the specific sections of the hypotheses that have been accepted, the reader is referred to the summary paragraphs following the presentation of findings for each particular set of hypotheses and Tables 11 and 12.

In general, the hypotheses predicting consistency of the students' levels of occupational aspiration and expectation received more support than those pertaining to congruency. Of the two congruency variables, one more hypothesis was supported with respect to the students' levels of occupational expectation congruency than with respect to their levels of occupational aspiration congruency. Hence, it might be said that the findings from the present study provide more information on the factors influencing the consistency of the students' levels of occupational aspiration and expectation than they do on the factors influencing the congruency of the students' levels of expectation and aspiration. Also, when the time dimension is taken into consideration, slightly more information is available regarding factors affecting the students' levels of occupational expectation congruency than regarding factors affecting their levels of occupational aspiration congruency.

Comparing the results with respect to consistency at time one and time two, it can be seen that the same number of hypotheses were supported. However, scrutiny of the time periods separately for the males and females reveals an interesting pattern. At time one, more of the hypotheses predicting occupational consistency were supported for the girls than for the boys. At time two, on the other hand, more of the hypotheses anticipating occupational consistency were supported for the boys than for the girls.

So far, this analysis has tested a series of hypotheses which examine the relationships existing between selected background factors and the students' levels of occupational consistency and congruency. In addition to the hypotheses testing procedure, an attempt is made to extend the analysis by examining the interrelationships among the independent variables.

Extension of the Analysis

As indicated in the review of literature, the subject of status attainment (i.e., the process whereby individuals acquire positions in the educational, occupational and other status hierarchies) has accrued a considerable amount of attention in recent years. To a certain extent researchers in this area have shifted from studying inter- and intra-generational mobility rates and trends to specifying causal sequences of status transmission and attainment. This transition in orientation from examining "how far the individual has moved across hierarchies to the factors which have led to this movement" has facilitated the development of multivariate models (Wilson and Portes, 1975: 343).

Two dominant lines of research have emerged. One line, initiated by the work of Blau and Duncan (1967) focuses on the role of objective or structural variables in the sequence of status transmission. The other line, closely linked with the work of Sewell and his associates (Sewell, Haller and Portes, 1969; Sewell, Haller and Ohlendorf, 1970; Sewell, 1971; Hauser, 1972; Sewell and Hauser, 1975) centers on the process of individual status attainment and includes both objective and subjective variables as causal inputs. Attempts have been made to replicate and extend both the Blau-Duncan "basic" model of the attainment process (e.g., Alexander and Eckland, 1975: 457-495) and the Wisconsin "social-psychological" model of socioeconomic achievement (e.g., Alexander, Eckland and Griffin, 1975: 324-342) and to adapt existing models to study the aspiration formation process (e.g., Gilbert, 1973 and 1977). However, as pointed out by Otto (1976: 218), "the process is painted with broad strokes of the theoretical brush which invite not only replication, but also refinement, extension, and alternative specifications."

Thus, the literature dealing with the occupational choice process is useful in isolating potentially important variables and providing a general framework or overall ordering which serves as a basis for subsequent analysis. However, in the present study, the number of independent variables and the uniqueness of the dependent variables complicate continuation of the model development tradition and the necessity of implementing an exploratory strategy is suggested. In response to the situation, multiple regression techniques are employed as a means of inductively determining linkages between the variables concerned. Each endogenous variable is in turn considered as a dependent variable and regressed on all causally antecedent independent variables (cf., Hagan, 1970: 77 and 83; 1974: 537). The following extension of the analysis is termed exploratory and preliminary insofar as it is confined to a presentation of the pattern of effects among the common antecedents of the four dependent variables (cf., Otto, 1976: 219). The intent in examining the interrelations among the independent variables is to provide empirical grounding for additional theory construction and research.

The variables dealt with in this extension of the analysis are the ones termed "independent" for the purposes of hypotheses testing. These variables are grouped and presented below, with the order of presentation representing an assumed sequence of temporal and/or logical priority. The groupings represent variables that have been "blocked" (i.e., entered into the analysis at the same time), with no attempt made to examine the interrelations among them (cf. Alexander, Eckland and Griffin, 1975: 325).

The first group of variables consists of socioeconomic background characteristics: father's education (x_1), mother's education (x_2) and father's occupation (x_3). The second group, collectively referred to as contextual factors, includes two variables pertaining to community of residence: community isolation (x_4) and community size (x_5); and one indicative of family context: family size (x_6). From here the ordering moves on to the individual's mental ability (x_7) and then to a set of seven subjective factors: expressive educational values (x_8), instrumental educational values (x_9), expressive occupational values (x_{10}), instrumental occupational values (x_{11}), educational opportunities (x_{12}), occupational opportunities (x_{13}) and the student's appraisal of his/her leadership ability (x_{14}). Included next is an indicator of the student's performance in school, namely: average marks in Grade 10 and 11 subjects (x_{15}). The next group is comprised of four parental encouragement variables: father's educational encouragement (x_{16}), mother's educational encouragement (x_{17}), father's occupational encouragement (x_{18}) and mother's occupational encouragement (x_{19}). The second last variable in this sequence is the student's program in school (x_{20}) and the last is the student's mobility orientation (x_{21}).

The dependent variables for this segment of the analysis remain the same: level of occupational consistency at time one (x_{22}), level of occupational consistency at time two (x_{23}), level of occupational expectation congruency (x_{24}) and level of occupational aspiration congruency (x_{25}).

Discussions of the occupational attainment process generally begin with the individual's socioeconomic background, the major aspects of which are identified as what the individual "brings with him" in opting for positions in the stratification hierarchies (Wilson and Portes, 1975: 343). Past studies have found socioeconomic status of the family to be important in explaining differences in the educational and occupational achievements of children (Breton, 1972; Pavalko and Bishop, 1966; Sewell and Shah, 1967; Williams, 1972). However, in almost all cases there has been no attempt to deal with the influence of the various background factors separately. Typically, the socioeconomic variable considered is an index of the occupational status of the father or an index which is comprised of a weighted composite of father's occupational status and each parent's educational level. In keeping with Hauser's (1972) precedent setting example of the merits of disaggregation, the present study employs three background status variables (father's education, mother's education and father's occupation). These variables are deemed "exogenous" (i.e., determined by causes not included in this research) and are "blocked" (i.e., no attempt has been made to examine their effects on each other) (cf., Hout and Morgan, 1975: 366; Alexander, Eckland and Griffin, 1975: 325).

Tepperman (1975: 181) has summarized some of the advantages of a preferred point of departure.

> Parents with white collar occupations and high (e.g., post-secondary) educational training will more often than other parents hold high aspirations for their children. They will also be more likely to believe in the existence of many opportunities for

> advancement, as is reasonable for people with high educational attainment. But these parents will not only believe in such opportunities and transmit this belief to their children: they will also make opportunities for their children.

Such parents "make opportunities" for their offspring in a variety of ways, although only a few of these are measured in the present study. By settling in large urban centers, these parents increase the number and variety of occupational roles available for themselves and their children, and the number and variety of schools that will train their children for desirable positions. In addition, by having smaller families, these parents augment their children's chances of social mobility (Tepperman, 1975: 181; Robb and Spencer, 1976: 82). In line with this reasoning, it is asserted that the socioeconomic background characteristics of the students in the present study are linked with the contextual factors (community isolation, community size and family size). In short, it is anticipated that the kind of context the student lives in will be determined in large part by the socioeconomic status of his family.

Moreover, it is posited that the contextual factors will have an impact on the students' measured mental ability. This specification is useful because it coincides with the assumptions of social class bias in mental tests and of environmental influence on mental development which are made by many sociologists (Hauser, 1972: 165).

The next set of variables, the subjective factors (values, opportunity orientations and appraisals of leadership ability) are thought to depend upon a blend of the individual's mental ability and experiences within the context of family and community frameworks. In these social settings, a child is made aware of what exists around him: "other people and objects, the pre-established organization and dispersion of such people and objects, and the value which is placed upon them" (Forcese and Richer, 1975: 9). Largely from the parents, the child learns words, attitudes and actual behaviors and begins to form a self-image. Thus, the child is sensitized to, and eventually acquires, various attitudes pertaining to his immediate environment and the adequacy of his functioning within that environment. For example, it is asserted that a child's sense of personal competence in the area of leadership is dependent upon both his mental abilities and the dynamics of his family and community life.

It is to be noted that the present study does not seek to document the development of entire value systems, global assessments of opportunity structures or total configurations of personality traits. Instead, it concentrates on the contention that students' evaluations of the relevancy of educational endeavors, their attitudes toward specific occupational characteristics (e.g., some prefer "work that is interesting" while others prefer a job with a high income), their appraisals of personal educational and occupational opportunities and their ratings of their own leadership ability tend to depend on selected aspects of self (mental ability) and self-conditioning factors (contextual and background characteristics).

In turn, it is argued that the students' stance with respect to these subjective factors has a bearing on the importance they attach to their present school work and, hence, affects their academic performance.

According to Forcese (1975: 58), formal education is "a key factor in the chain of social condition linking the social class of a family, opportunity of children, and social class of mature children." Past research has shown that the school reinforces family and community influences (Tepperman, 1975: 180). For example, a student from a small upper class family residing in a large urban center, who has a high I.Q., who places a premium on certain educational and occupational experiences, who is confident with respect to his opportunities and abilities will probably work harder (i.e., study more hours per night) and get better grades than a student with the opposite characteristics. Negative attitudes toward self (low estimation of leadership ability) and negative assessments of self-in-environment (low valuation of educational and occupational opportunities) internalized by a lower class child from a large family residing in a small, relatively isolated community tend to be reflected in poor academic performance. Low marks, in turn, are hypothesized to have a depressing effect on parental encouragement and eventual program placement.

Although, in general, parents may be favorably disposed to the concepts of continuing education and occupational achievement, the encouragement given to their own offspring is premised upon appraisals of academic performance (Haller and Portes, 1973: 67; Hout and Morgan, 1975: 365). Especially in situations confounded by scarce resources, marks received in school subjects are scrutinized and subsequently employed as indicators of the likelihood of success. For parents, school-related achievements serve as portents of probably future accomplishments and their support is adjusted accordingly. Poor performance, however, has a detrimental impact on parental encouragement. Relying on grades as their guage, parents of poor students may perceive their children in terms of labels such as "not too bright" and "early failure" and may suggest that they shape their aspirations to take into account apparent limitations in academic ability.

Furthermore, grades,along with the presence or absence of parental support, are used as guidelines for program allocation. The student whose strong scholastic performance is reinforced by parental backing is more likely to be channeled by school authorities into high prestige programs (i.e., university entrance) (Wilson and Portes, 1975: 360). One function of this type of program is to increase the student's information on decision-making options. A student whose awareness has been expanded through this additional exposure is likely to be motivated to leave his community to avail himself of a greater number and variety of career development alternatives. Finally, it is logical to expect that the student who intends to relocate will have formulated more definitive plans premised on this course of action and, thus, his aspirations and expectations are likely to be more consistent and congruent.

The zero-order correlations, means and standard deviations upon which analysis by multiple regression proceeds are displayed in Table 13 and Table 14 for the boys and girls, respectively. The pattern of effects among the common antecedents of the four dependent variables is presented in Table 15 for the boys and Table 16 for the girls.

For the boys, the effects of family socioeconomic statuses (father's education, x_1; mother's education, x_2; father's occupation, x_3) on the contextual factors (community isolation, x_4; community size, x_5; family size, x_6) are not noteworthy. The sole exception is the positive effect of mother's education on family size. The family and contextual factors account for 23.2 per cent of the variance in mental ability, x_7, with a significant positive effect contributed by community size. The effects of the family, contextual and mental ability variables on the set of subjective factors (expressive educational values, x_8; instrumental educational values, x_9; expressive occupational values, x_{10}; instrumental occupational values, x_{11}; educational opportunities, x_{12}; occupational opportunities, x_{13}; and leadership ability, x_{14}) are few. Community isolation has a negative effect on the boys' expressive occupational values and their appraisals of occupational opportunities. Also, family size has a negative effect on the boys' appraisals of their occupational opportunities; whereas, mental ability has a positive effect on their occupational opportunity orientations. Family socioeconomic statuses, contextual factors, mental ability and the subjective factors account for 21.2 per cent of the variance in average marks, x_{15}. Mental ability, instrumental educational values, educational opportunities and leadership

TABLE 13

Zero-order Correlation Coefficients, Means and Standard Deviations for the Boys' Independent and Dependent Variables*

Variables**	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}	X_{22}	X_{23}	X_{24}	X_{25}	X	S.D.
X_1	-	.382	.563	-.046	.177	-.020	.120	.012	.101	.087	-.074	.200	.151	.036	.039	.147	.119	.045	-.035	.149	.081	-.204	.021	-.120	.103	3.212	1.820
X_2		-	.295	-.068	.197	.166	.054	.024	.074	.012	.098	.125	-.005	.117	-.083	.026	.059	.050	-.065	.048	.159	.118	-.011	.103	-.018	3.432	1.559
X_3			-	-.123	.069	.060	.073	.049	.044	-.019	-.100	.170	.103	.126	.081	.051	-.025	.033	-.026	.154	.135	-.132	-.090	-.034	.005	41.598	11.811
X_4				-	.170	.027	.160	-.112	-.016	-.201	-.088	-.073	-.160	-.082	.078	.048	.134	.048	.049	-.123	-.146	-.109	.032	-.191	-.079	2.523	1.073
X_5					-	.225	.468	.025	.057	.090	.073	-.004	-.065	.033	-.140	-.012	-.047	-.046	-.112	.124	-.014	-.163	-.008	-.260	-.147	3.500	1.233
X_6						-	.071	-.047	.017	-.020	.106	-.021	-.217	.167	.020	-.015	-.101	-.085	-.147	.091	-.119	.085	.058	-.041	-.079	3.932	1.499
X_7							-	.044	-.016	.066	-.003	.056	.146	.065	.141	.132	.033	.071	.022	.305	-.024	-.233	-.154	-.212	-.172	2.167	1.404
X_8								-	.436	.482	.180	-.041	-.085	.040	.030	.155	.218	.105	.137	-.018	.230	-.017	-.073	.115	.078	23.750	6.758
X_9									-	.340	.572	-.024	-.060	.054	.135	.107	.176	.123	.060	-.011	.053	.042	.050	.160	.206	25.144	5.898
X_{10}										-	.349	.011	.034	.054	-.039	.089	.216	.158	.196	.141	.238	.010	-.038	.146	.126	25.553	6.513
X_{11}											-	.017	-.179	-.028	-.015	.053	.091	-.043	-.158	-.038	-.171	.217	.151	.111	.065	24.242	5.825
X_{12}												-	.442	.180	.194	.112	-.017	.210	.212	.119	-.055	-.091	-.105	-.052	-.079	3.098	.760
X_{13}													-	.122	.028	.084	-.067	.136	.160	.065	-.036	-.093	-.138	.017	-.029	2.947	.902
X_{14}														-	.218	.121	.106	.083	.167	.194	.197	-.049	-.213	.154	.008	2.152	.815
X_{15}															-	.150	.030	.158	.231	.360	-.015	-.201	-.192	.049	.069	5.833	1.147
X_{16}																-	.545	.474	.187	.176	.010	-.147	-.126	.083	.126	2.402	.790
X_{17}																	-	.258	.212	-.030	.017	-.108	.128	-.035	.220	2.545	.658
X_{18}																		-	.582	.264	.051	.029	-.030	.163	.135	2.152	.815
X_{19}																			-	.184	.110	-.133	-.124	.083	.112	2.311	.802
X_{20}																				-	-.047	-.159	-.212	.101	.065	.545	.500
X_{21}																					-	.083	-.054	.228	.128	.727	.447
X_{22}																						-	.286	.497	-.182	7.439	7.167
X_{23}																							-	-.335	.383	7.591	7.176
X_{24}																								-	.303	7.780	7.926
X_{25}																									-	6.629	6.451

* N = 132

** X_1 father's education; X_2 mother's education; X_3 father's occupation; X_4 community isolation; X_5 community size; X_6 family size; X_7 mental ability; X_8 expressive educational values; X_9 instrumental educational values; X_{10} expressive occupational values; X_{11} instrumental occupational values; X_{12} educational opportunities; X_{13} occupational opportunities; X_{14} leadership ability; X_{15} average marks; X_{16} father's educational encouragement; X_{17} mother's educational encouragement; X_{18} father's occupational encouragement; X_{19} mother's occupational encouragement; X_{20} program in school; X_{21} mobility; X_{22} level of occupational consistency at time one; X_{23} level of occupational consistency at time two; X_{24} level of occupational expectation congruency; X_{25} level of occupational aspiration congruency.

TABLE 14

Zero-order Correlation Coefficients, Means and Standard Deviations for the Girls' Independent and Dependent Variables*

Variables**	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}	X_{22}	X_{23}	X_{24}	X_{25}	X	S.D.
X_1	-	.382	.552	-.059	.054	.207	.077	-.099	-.045	-.037	-.005	.191	.116	-.146	.066	.124	.210	-.008	-.036	.141	.035	.052	.026	.035	.014	3.131	1.823
X_2		-	.360	-.108	.083	.000	.084	.001	-.092	-.111	-.099	.141	.006	-.026	.088	.037	.228	-.026	-.028	.259	.105	.064	-.025	.098	.017	3.262	1.507
X_3			-	-.127	.015	.177	.045	-.006	-.052	-.097	-.010	.242	.114	-.156	.182	.272	.210	.127	-.075	.212	.189	.060	-.080	.102	-.033	41.615	11.465
X_4				-	.112	-.015	.237	-.090	-.222	-.071	-.244	-.022	-.053	.057	.117	-.125	.020	-.041	.021	-.143	-.134	-.158	-.109	-.040	-.000	2.562	1.057
X_5					-	.065	.369	.065	.052	.127	.159	.027	.092	.007	-.227	.044	-.072	.204	.085	-.162	-.234	-.072	-.156	.062	-.023	3.538	1.162
X_6						-	-.072	.073	-.007	-.077	-.065	-.041	-.040	-.007	-.046	-.083	-.218	-.093	-.181	-.072	.159	-.014	-.033	.122	.114	3.792	1.903
X_7							-	-.081	-.229	.047	-.156	.123	.009	.067	.088	-.067	.137	.071	.047	.140	-.038	-.016	-.012	-.141	-.154	2.277	1.510
X_8								-	.517	.444	.251	.040	.023	-.024	-.057	.127	.034	.129	.025	-.019	-.118	-.115	-.133	.050	.032	26.508	6.355
X_9									-	.333	.661	.007	.015	-.097	-.196	.145	-.047	.126	.136	-.212	-.196	-.038	-.049	-.005	-.019	25.185	6.032
X_{10}										-	.354	-.032	.034	.083	-.103	.124	.133	.243	.154	-.003	-.168	-.046	.043	-.036	.052	28.169	5.731
X_{11}											-	-.014	.040	-.058	-.194	.105	-.077	.223	.090	-.279	-.214	-.139	.026	-.118	.037	22.254	7.024
X_{12}												-	.503	.122	.329	.317	.221	.236	.141	.358	-.031	-.011	-.176	.069	-.099	3.008	.867
X_{13}													-	.113	.190	.245	-.011	.185	.043	.058	-.134	.040	-.222	.136	-.125	2.738	.822
X_{14}														-	.195	-.008	-.015	.058	.134	.036	.013	-.288	-.165	-.009	.107	2.008	.440
X_{15}															-	.065	.083	-.102	-.159	.374	.060	.039	-.234	.138	-.132	6.492	1.129
X_{16}																-	.460	.493	.174	.185	-.054	.244	-.005	.036	-.213	2.346	.723
X_{17}																	-	.243	.394	.339	-.046	.121	.016	-.001	-.107	2.538	.624
X_{18}																		-	.476	-.039	-.195	.044	.007	.089	.062	2.269	.824
X_{19}																			-	-.058	-.264	-.012	-.078	.080	.018	2.423	.735
X_{20}																				-	.218	.141	.004	.000	-.138	2.354	.815
X_{21}																					-	-.042	.073	.001	.120	.654	.478
X_{22}																						-	.327	.285	-.352	8.285	6.695
X_{23}																							-	-.443	.233	10.431	6.985
X_{24}																								-	.356	7.392	7.348
X_{25}																									-	6.754	6.597

* N = 130

** X_1 father's education; X_2 mother's education; X_3 father's occupation; X_4 community isolation; X_5 community size; X_6 family size; X_7 mental ability; X_8 expressive eduational values; X_9 instrumental educational values; X_{10} expressive occupational values; X_{11} instrumental occupational values; X_{12} educational opportunities; X_{13} occupational opportunities; X_{14} leadership ability; X_{15} average marks; X_{16} father's educational encouragement; X_{17} mother's educational encouragement; X_{18} father's occupational encouragement; X_{19} mother's occupational encouragement; X_{20} program in school; X_{21} mobility; X_{22} level of occupational consistency at time one; X_{23} level of occupational consistency at time two; X_{24} level of occupational expectation congruency; X_{25} level of occupational aspiration congruency.

TABLE 15

Standardized Regression Coefficients and Coefficients of Determination for Variables at Each Stage of the Boys' Occupational Choice Model.

Variables*	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}	R	R^2
X_4	.049	-.046	-.137																			.133	.018
X_5	.153	.157	-.063																			.231	.054
X_6	-.140	.196[a]	.081																			.201	.040
X_7	.035	-.054	.050	.086	.460[c]	-.029																.418	.232
X_8	-.043	.018	.051	-.119	.036	-.062	.051															.148	.022
X_9	.095	.033	-.021	-.014	.063	...	-.055															.126	.016
X_{10}	.135	-.039	-.122	-.238[b]	.104	-.024	.052															.273	.075
X_{11}	-.069	.125	-.120	-.110	.079	.078	-.018															.230	.053
X_{12}	.138	.061	.068	-.054	-.065	-.021	.071															.236	.055
X_{13}	.133	-.030	.020	-.164[a]	-.117	-.196[a]	.225[a]															.363	.132
X_{14}	-.064	.080	.117	-.076	-.037	.150	.078															.239	.057
X_{15}	.025	-.120	.042	.068	-.281[b]	.027	.265[b]	-.039	.245[a]	-.049	-.114	.226[a]	-.151	.185[a]								.461	.212
X_{16}	.190	-.027	.070	.078	-.099	...	.117	.165	-.020	-.015	.076	.040	.047	.095	.078							.319	.102
X_{17}	.182	.052	-.116	.197[a]	-.158	-.112	.063	.123	.058	.159	...	...	-.103	.148	-.042							.409	.167
X_{18}	-.079	.096	...	.088	-.086	-.068	.073	-.030	.191	.208[a]	-.215[a]	.202[a]	...	.012	.080							.372	.139
X_{19}	-.128	.027	-.032	.100	-.082	-.114	.011	...	.152	.294[b]	-.335[b]	.204[a]	...	.099	.147							.498	.248
X_{20}	.066	...	.046	-.173[a]	.060	.038	.226[a]	-.127	-.067	.178	-.041	-.031	-.076	.078	.309[c]	.089	-.134	.194	.016			.582	.339
X_{21}	-.069	.204[a]	.085	-.105	-.021	-.180[a]	.044	.043	.129	.336[c]	-.399[c]	-.037	-.183	.212[a]	.010	.079	-.144	...	...	-.173		.544	.296
X_{22}	-.132	.140	-.064	-.023	-.160	.103	-.109	...	-.077	-.060	.279[a]	-.058	.044	...	-.128	-.177	-.031	.293[a]	-.175	-.035	.152	.527	.277
X_{23}	.171	-.111	-.087	-.030	.027	.138	-.097	-.055	-.042	-.144	.217[a]	-.031	...	-.171[a]	-.076	-.322[b]	.323[b]	.215[a]	-.102	-.086	.082	.480	.231
X_{24}	-.153	.171[a]	-.032	-.040	-.219[a]	-.027	-.155	...	.107	.062	.070	-.114	.062	.111	-.017	.109	-.157	.121	-.046	.142	.174[a]	.526	.277
X_{25}	.144	-.064	-.063	-.058	-.062	...	-.177	-.073	.181[a]	...	...	-.111	.027	-.046	.037	-.025	.198[a]	.061	.020	.115	.130	.420	.176

* X_1 father's education; X_2 mother's education; X_3 father's occupation; X_4 community isolation; X_5 community size; X_6 family size; X_7 mental ability; X_8 expressive educational values; X_9 instrumental educational values; X_{10} expressive occupational values; X_{11} instrumental occupational values; X_{12} educational opportunities; X_{13} occupational opportunities; X_{14} leadership ability; X_{15} average marks; X_{16} father's educational encouragement; X_{17} mother's educational encouragement; X_{18} father's occupational encouragement; X_{19} mother's occupational encouragement; X_{20} program in school; X_{21} mobility; X_{22} level of occupational consistency at time one; X_{23} level of occupational consistency at time two; X_{24} level of occupational expectation congruency; X_{25} level of occupational aspiration congruency.

[a] Significant at .05 level; [b] Significant at .01 level; [c] Significant at .001 level.

TABLE 16

Standardized Regression Coefficients and Coefficients of Determination for Variables at Each Stage of the Girls' Occupation Choice Model.

Variables*	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}	R	R^2
X_4	.038	-.079	-.120																			.147	.022
X_5	.045	.079	-.038																			.092	.008
X_6	.186	-.112	.115																			.243	.059
X_7	.055	.042	.040	.210^a	.346^c	-.109																.441	.195
X_8	-.158	.034	.047	-.079	.106	.083	-.088															.206	.043
X_9	.019	-.102	-.036	-.200^a	.173^a	-.036	-.239^a															.345	.119
X_{10}	.062	-.130	-.087	-.116	.145	-.084	.109															.234	.055
X_{11}	.064	-.156	...	-.242^b	.277^b	-.114	-.201^a															.396	.157
X_{12}	.080	.031	.195	-.014	-.016	-.084	.109															.289	.084
X_{13}	.108	-.081	.094	-.049	.115	-.089	-.034															.198	.039
X_{14}	-.114	.059	-.123	.025	-.026	.046	.083															.202	.041
X_{15}	-.047	.027	.172	.120	-.277^b	-.035	.090	.049	-.113	-.033	-.021	.231^a	.074	.160^a								.515	.265
X_{16}	-.017	-.077	.282^b	-.053	.073	-.128	-.114	.024	.095	.107	-.062	.235^a	.085	...	-.026							.466	.217
X_{17}	.129	.124	.132	.040	-.124	-.246^b	.082	.015	...	.199^a	-.114	.228^a	-.144	...	-.060							.490	.240
X_{18}	-.122	-.056	.223^a	.019	.119	-.088	...	.023	-.080	.178	.153	.236^a	.057	.057	-.174							.469	.220
X_{19}	.014	-.025	...	.051	.026	-.173^a	.012	-.102	.179	.125	-.082	.223^a	-.051	.154	-.235^a							.395	.156
X_{20}	-.036	.113	.012	-.224^b	-.066	-.022	.087	...	-.065	.131	-.219^a	.294^b	-.121	-.030	.213^a	.055	.211^a	-.071	-.100			.651	.424
X_{21}	-.120	.032	.261^a	-.108	-.191^a	.115	.034	-.064	-.050	-.021	-.087	.015	-.109	.081	-.119	...	-.028	-.042	-.182	.142		.502	.252
X_{22}	-.044	.076	-.074	-.180^a	-.054	.058	.060	-.213^a	.129	.069	-.259^a	-.125	.052	-.316^c	.087	.297^b	-.028	...	...	.056	-.117	.510	.260
X_{23}	.095	...	-.135	-.076	-.237^a	-.013	.095	-.160	-.071	.103	.058	-.026	-.163	-.106	-.274^a	.061	...	.117	-.155	.053	...	.466	.217
X_{24}	-.047	.086	.050	-.067	.187	.108	-.232^a	.016	.099	.013	-.263^a	-.043	.116	-.067	.239^a	-.088	.016	.115	.113	-.079	.026	.407	.166
X_{25}	.090	.031	-.014	.029	...	.048	-.213^a	.063	-.097	.056	.031	.051	-.096	.132	-.086	-.330^b	.036	.257^a	-.040	-.088	.144	.438	.192

*X_1 father's education; X_2 mother's education; X_3 father's occupation; X_4 community isolation; X_5 community size; X_6 family size; X_7 mental ability; X_8 expressive educational values; X_9 instrumental educational values; X_{10} expressive occupational values; X_{11} instrumental occupational values; X_{12} educational opportunities; X_{13} occupational opportunities; X_{14} leadership ability; X_{15} average marks; X_{16} father's educational encouragement; X_{17} mother's educational encouragement; X_{18} father's occupational encouragement; X_{19} mother's occupational encouragement; X_{20} program in school; X_{21} mobility; X_{22} level of occupational consistency at time one; X_{23} level of occupational consistency at time two; X_{24} level of occupational expectation congruency; X_{25} level of occupational aspiration congruency.

[a] Significant at .05 level; [b] Significant at .01 level; [c] Significant at .001 level.

ability contribute positive effects. On the other hand, the effect of community size on average marks is negative.

An examination of the effects of the family and contextual factors, mental ability, the subjective factors and average marks on the four indicators of parental encouragement (father's educational encouragement, x_{16}; mother's educational encouragement, x_{17}; father's occupational encouragement, x_{18}; mother's occupational encouragement, x_{19}) reveals the following results. Community isolation has a positive effect on maternal educational encouragement. The boys' expressive occupational values and their appraisals of their educational opportunities have positive effects on father's and mother's occupational encouragement; whereas, the effect of the boys' instrumental occupational values on both of these variables is negative. All the preceding variables account for 33.9 per cent of the variation in the boys' choice of program of studies, with significant effects contributed by community isolation, mental ability and average marks. Taken together the family socioeconomic statuses, contextual factors, mental ability, subjective factors, average marks, parental encouragement variables and program in school account for 29.6 per cent of the variation in the boys' geographical mobility orientations, with effects contributed by mother's education, family size, expressive and instrumental occupational values and leadership ability.

As was the case for the boys, the effects of the girls' family socioeconomic statuses (father's education, x_1; mother's education, x_2; father's occupation, x_3) on the contextual factors (community isolation, x_4; community size, x_5; family size, x_6) do not merit attention. The family and contextual factors account for 19.5 per cent of the variance in mental ability, x_7, with significant positive effects contributed by community isolation and community size. The effects of the family statuses, contextual factors and mental ability on the subjective items (expressive educational values, x_8; instrumental educational values, x_9; expressive occupational values, x_{10}; instrumental occupational values, x_{11}; educational opportunities, x_{12}; occupational opportunities, x_{13}, and leadership ability, x_{14}) are few in number and confined to the value variables. Community isolation and mental ability both have negative effects on the girls' instrumental educational and occupational values. Community size, on the other hand, has a positive effect on both. Family socioeconomic statuses, contextual factors, mental ability and the subjective variables account for 26.5 per cent of the variance in average marks, x_{15}. Educational opportunities and leadership ability contribute positive effects; whereas, the effect of community size is negative. These findings indicate a pattern of effects similar to the one reported for the boys at this stage of the analysis.

An examination of the effects of the family and contextual factors, mental ability, the subjective factors and average marks on the four parental encouragement variables (father's educational encouragement, x_{16}; mother's educational encouragement, x_{17}; father's occupational encouragement, x_{18}; and mother's occupational encouragement, x_{19}) reveals the following assortment of findings. Father's occupation and the girls' appraisals of their educational opportunities have positive effects on father's educational and occupational encouragement. The girls' expressive occupational values and their appraisals of educational opportunities have a positive effect on mother's educational encouragement, while the effect of family size is negative. Similarly, with respect to mother's occupational encouragement, family size has a negative effect and the girls' appraisals of their educational opportunities have a positive effect. Average marks also have a negative effect on mother's occupational encouragement. All of the variables included thus far account for 42.4 per cent of the variation in the girls' choice of program in school, with noteworthy effects contributed by community isolation, instrumental occupational values, educational opportunities, average marks and maternal educational encouragement. Operating jointly, the family statuses, contextual factors, mental ability, subjective factors, average marks, parental encouragement variables and program in school account for 25.2 per cent of the variation in the girls' geographical mobility orientations, with effects contributed by father's occupation and size of community of residence.

Discussion of Findings re: Hypotheses Testing

Having presented the results in general terms, we turn now to more detailed discussion of some of the major findings. To facilitate reference to the review of relevant literature contained in Chapter III, the separate sections of the following discussion will be presented under the same headings used to order the presentation of hypotheses (i.e., self-related factors; family-related factors; school-related factors; and community-related factors).

Self-related factors:

Past research has linked self-concept with a number of behavioral outcomes (cf. Wylie, 1961 for a general overview; Brookover, 1969: 106 for effect on achievement). Canadian research conducted by Forcese and Siemens (1965: 23-24) conceptualized self-image as an integral component in the process of aspiration formation.

The particular aspect of self-concept that concerns us is the students' appraisals of their leadership ability. The findings at hand indicate that the more positive their appraisals of leadership ability, the more consistent the girls' levels of occupational aspiration and expectation at time one and the more consistent the boys' levels of occupational aspiration and expectation at time two. These findings suggest that the female students are cognizant of their position in interaction earlier than the males and, further, that those who feel in command of the situation are more likely to be able to align their levels of occupational aspiration and expectation.

This interpretation is in keeping with the results of sex role differentiation studies which take into account "how boys and girls . . . behave towards other people in their environment" (Tepperman, 1975: 167). Young girls, according to Bardwick (1971: 92-94), are more aware of social demands, better able to make accurate assessments of these demands and more likely to develop a self-concept linked to the evaluation and acceptance of others. Boys, on the other hand, develop a self-regard system relatively independent of external evaluations and tend to assess themselves in terms of their achievements. The early "social sensibility" of girls has also been noted by Hennig and Jardim (1976: 79 and 111) in their study of the backgrounds of twenty-five women in top management positions. Typically, the twenty-five were at the head of their class and they believed they were social leaders as well.

Past studies (e.g., Breton, 1972: 51) have shown that individuals who emphasize instrumental or "extrinsic-reward oriented", as opposed to expressive or "intrinsic-reward oriented", educational and occupational values are inclined to be indecisive with respect to prospective careers. It was hypothesized, therefore, that the salience of instrumental educational and occupational values would vary inversely with the consistency and congruency of the students' levels of aspiration and expectation; whereas, the emphasis on expressive values would vary directly with consistency and congruency. As anticipated, it was found that the more instrumental the boys' educational values, the less congruent their levels of occupational aspiration over time; and, the more instrumental the boys' occupational values, the less consistent their levels of occupational aspiration and expectation at time one and time two.

The linkage between an emphasis on instrumental values and inconsistent and incongruent levels of aspiration and expectation may be explained, in part at least, by comparing such perspectives with contemporary societal orientations. According to Yankelovich (1978: 47), an onslaught of "New Breed work-related values" occurred during the seventies. As a result, rather than stressing traditional instrumental incentives (e.g., monetary and status rewards), modern workers are demanding opportunities for self-expression and insisting that jobs become less depersonalized. When Yankelovich (1978: 50) asked people in his surveys which aspects of their work are becoming more important to them they replied "being recognized as an individual person" and "the opportunity to work with pleasant people." Similarly, Renwick's (1978: 57) recent survey of work attitudes revealed that it was "the possibilities for self-growth" that headed the list, including opportunities to develop skills and abilities, to learn new things and to achieve a sense of personal accomplishment. Included among the least important (though not necessarily unimportant) items were: fringe benefits, chances for promotion, the physical surroundings at work and the friendliness of co-workers. In sum, Renwick (1978: 65) suggests that the best term to describe the respondents' approach to work is "self-oriented."

The aforementioned findings are paralleled in an examination of Canadian work values (Burshtyn et al., 1975). In general, it was found that

> . . . intrinsic aspects of work such as having sufficient information and authority outweigh the importance of extrinsic features such as salary or comfortable surroundings. The opportunity to develop one's abilities, freedom in performing the job, and being able to see the results of one's work are particularly salient.

> Salary-based items, while rated as somewhat important, are apparently not valued as highly as the nature of the work or its organization (Burshtyn et al., 1975: 30).

If one accepts that the studies cited above accurately tap societal trends, then a plausible explanation of the plight of instrumentally oriented individuals emerges. Conceivably, students espousing instrumental values (e.g., emphasis on security, income, prestige and the availability of leisure time) are also aware of the dominant societal values accentuating personal growth and fulfilling work. Confronted with the realization that a majority of Americans and Canadians evaluate job characteristics differently than they do, they might experience difficulties integrating their aspirations and expectations. On the whole, the preceding findings lend credence to Breton's (1972: 45) contention that "a student's attitude toward work and achievement may influence his ability to orient himself toward the occupational environment and to crystallize a preference for his career within it."

For the girls, however, the finding that the more expressive their educational values the more consistent their levels of occupational aspiration and expectation at time one is in keeping with general trends. On the other hand, the findings that the more instrumental the girls' occupational values, the more consistent their levels of occupational aspiration and expectation at time one and the more congruent their levels of occupational expectation over time cloud the picture and run counter to Breton's (1972: 45) finding that "students who consider work inherently rewarding are more likely to have a career goal."

Opportunity orientations were included in an attempt to ascertain the student's subjective perceptions of their life chances as they pertain to educational and occupational achievement. At least one Canadian study (Breton, 1972: 51) discovered that students who envisioned limited opportunities were more likely to be bothered by vocational indecision. Accordingly, it was anticipated that the more positive the students' educational and occupational opportunity orientations, the more consistent and congruent their levels of aspiration and expectation. This assertion was not borne out with respect to the boys' and girls' data. A possible explanation emerges after examining the frequency distributions of these two independent variables. Positive appraisals of their educational opportunities were the order of the day for 84.8 per cent of the boys. Similarly, 75 per cent of the boys stated that they felt their occupational opportunities were either good or very good. Somewhat lower percentages appear for the girls (i.e., educational opportunities, 77 per cent; occupational opportunities, 66.9 per cent), but are still quite high. These figures call to mind the statement that an independent variable which varies little explains little variation in the dependent variable and this helps to account for the absence of relationships.

Family-related factors:

A number of investigators have noted positive associations between familial socio-economic status and students' educational aspirations. In addition, some past studies have demonstrated that students from higher socio-economic status families have higher occupational aspiration and expectation levels than students from lower socio-economic status families.

More important for the purposes of the present study is the research which suggests that the relative importance of structural factors differs for aspiration and plan-choice situations (Schwarzweller, 1959: 249). Several researchers have found the effect of socio-economic status to be more pronounced for plans than for aspirations (Stephenson, 1955 and 1957; Morland, 1960; Bennett and Gist, 1964). Stephenson (1957: 212), for example, noted that different social classes did not differ significantly in their aspirations, yet did differ in their plans. By way of explanation, he proposed that a similar cultural value system (as reflected in aspirations) was operative throughout the sample, but that the plans varied due to the students' awareness of economic and social obstacles.

Since the composite measures of consistency and congruency include both aspirations and expectations, it appeared plausible to assume that they would be associated with the class background of the students' family. Hence, it was hypothesized that the higher the socio-economic status of their family, the more consistent and congruent the students' levels of aspiration and expectation. This hypothesis was not supported.

In general, past studies have shown that parents' education, whether considered separately or jointly, is positively related to the educational aspirations of both sexes (Herriott, 1962; Siemens, 1965; Sharp and Kristjanson, 1966; Slocum, 1968). Sewell and Shah (1968b), however, employed separate tabulations for each sex because they perceived the possibility of differences in the influence of parents' education on the aspirations of males and females. The only difference noted in the present study was that mother's educational level has an impact on the boys' levels of occupational expectation congruency, but not the girls.

Scrutiny of the parental encouragement variables employed in the present study revealed some interesting results. For example, it was found that the stronger their father's educational encouragement, the more consistent the boys' levels of occupational aspiration and expectation at time two and the more congruent the girls' levels of occupational aspiration over time. However, the stronger their father's educational encouragement, the less consistent the girls' levels of occupational aspiration and expectation at time one. Similarly, for the boys', the stronger their mother's educational encouragement, the less consistent their levels of occupational aspiration and expectation at time two and the less congruent their levels of occupational aspiration over time. In addition, it was found that the stronger their father's occupational encouragement, the less consistent the boys' levels of occupational aspiration and expectation at time one and time two and the less congruent the girls' levels of occupational aspiration over time.

The above mentioned findings, suggesting linkages between strong parental encouragement and inconsistent levels of occupational aspirations and expectations, were not expected. However, as mentioned previously, student report data was relied on to guage encouragement. It is possible that students subjected to strong encouragement defined their parents' statements and suggestions as additional pressure or undesirable intervention and, thus found it difficult to formulate consistent levels of aspiration and expectation. Other writers (e.g., Davis, 1940; Friedenberg, 1959; Goodman, 1960; Erikson, 1968; Coleman, 1978) have attested to the idea that parent-youth conflict during this period of adolescent development is common and frequently surfaces in discussions concerning career choice.

With respect to congruency, it was found that the stronger their mother's encouragement for continuing education, the less congruent the boys' levels of occupational aspiration over time and the stronger their father's encouragement for occupational achievement, the less congruent the girls' levels of occupational aspiration over time. Thus, for these students, strong parental encouragement appears to be associated with transitions in occupational aspirations over time. These findings also suggest that the influence of the parent of the opposite sex may be more pronounced than the influence of the parent of the same sex in certain areas.

Evidence regarding the central role of the family with respect to the formation and maintenance of vocational orientations is abundant. In general, past research has attested to the importance of a number of family-related variables. Specifically, socio-economic status has been singled out as the major direct and indirect determinant of educational and occupational choice (Borow, 1966: 382 and 386; Tepperman, 1975: 182 and 185) with parental educational attainment a close second (Borow, 1966: 387; Robb and Spencer, 1976: 75). Several studies (e.g., Breton, 1972: 78 and 171) have shown that students from large families tend to experience vocational planning problems (e.g., indecision or absence of a career goal) more frequently than those from small families. In addition, sociological analyses have long emphasized the significance of supportive interpersonal relations, especially in the form of parental encouragement. Findings support the view that adolescents who perceive that their parents want them to continue their education after high school and pursue a higher status occupation will be oriented toward a career goal (e.g., Breton, 1972: 84-85).

In the present study, however, the relationships between the family-related factors and the dependent variables were not as numerous as anticipated. Father's occupation, father's education and family size were conspicuously absent from the observed associations and the directional inversions with respect to parental encouragement made pattern detection difficult.

Blau and Duncan (1967) have shown that occupational status and inter-generational mobility in North America are largely dependent on educational attainment. It appears that father's social class or ethnic origin has little influence on occupational attainment for males who have reached the same level of education. In view of the above results, the lack of significance of the objective family factors in the present study might be accounted for, in part, by the stage of the sample (i.e., Grade 10 and Grade 12 students). Socio-economic constraints may have been operative earlier and taken their toll in terms of drop-outs prior to Grade 10. Since the drop-out group undoubtedly contains a disproportion of individuals with negative opportunity orientations and low levels of educational and occupational aspiration, their omission affects the results in foreseeable directions. Thus, to a certain extent, the students in the higher grades constitute a select group because, unlike many of their former classmates, they have remained in school instead of having dropped out (cf. Della Fave, 1977: 376).

School-related factors:

Three variables comprised this category: program in high school; average marks in Grade 10 and 11 subjects and measured mental ability.

None of these variables qualified as significant determinants of the boys' levels of occupational consistency and congruency. For the girls, however, it was found that the higher their average marks, the more consistent their levels of occupational aspiration and expectation at time two, but the less congruent their levels of occupational expectation over time. Also, in accordance with the hypotheses advanced, it was found that the higher their measured mental ability, the more congruent the girls' levels of occupational expectation and aspiration over time.

It has been asserted that testing procedures with respect to course work and mental ability constitute important components of school experience. Levels of performance, as assessed by average marks and I. Q. scores, provide the student with some indication of his relative merit and the likelihood of success in future competition for grades or jobs. An individual can compare the progress he has made with that which he hopes to make. Thus, to a certain extent, the educational system "provides a continuing reality check for the choices which have been made" (Miller, 1960: 118-119). It was anticipated that good grades and high I.Q. scores would tend to reinforce the alignment of preferences and plans; whereas, poor performances would indicate discrepant preferences and plans and, possibly, necessitate revision. Three of the four results cited above regarding the girls' data concur with these expectations.

Community-related factors:

In accordance with the hypotheses, it was found that the larger the size of the community of residence, the more consistent the girls' levels of occupational aspiration and expectation at time two and the more congruent the boys' levels of occupational expectation over time.

However, contrary to the hypotheses advanced, it was found that the more isolated the community of residence, the more consistent the girls' levels of occupational aspiration and expectation at time one and the more mobility oriented the boys, the less congruent their levels of occupational expectation over time.

Many writers (Youmans, 1959; Burchinal, 1961; Sewell, 1964; Sewell and Orenstein, 1965; Borow, 1966) agree that restrictions upon the social and occupational experience of youth residing in small communities have an adverse impact on the range and ambitiousness of their occupational goals. In addition, Sharp and Kristjanson (1966: 16) have suggested that the lower occupational aspiration levels of small town residents are explainable, perhaps, by their more restricted knowledge of the nature and accessibility of higher prestige jobs. Moreover, past studies (e.g., Tepperman, 1975: 184) have noted that the larger the community size, the greater is the division of labour in the community and the wider the variety of jobs available nearby. Thus, the findings of the present study, reviewed in conjunction with previous research, suggest that residence in large communities, which provide exposure to a considerable number and variety of occupational roles, is associated with consistent levels of occupational aspiration and expectation at time two for the girls and congruent levels of occupational expectation over time for the boys.

Throughout the above discussion similarities and differences in the patterns of relationships between the background characteristics and the dependent variables for male and female students have been noted. The following section of the discussion focuses, more explicitly, on possible explanations of the observed differences in consistency and congruency of levels of aspiration and expectation.

Sex Differences:

Existing explanations of sex differences in educational and occupational choices tend to emphasize intellectual abilities, economic influences and social conditioning. Studies attempting to identify differences between the intellectual abilities of boys and girls have suggested that, on the average, girls have greater verbal ability than boys, while boys excel in visual-spatial and mathematical abilities (e.g., Maccoby and Jacklin, 1974). These studies, however, have been stalemated when it comes to addressing the issue of whether these differences are innate or the result of socialization. In general, it has been concluded that "differences in abilities will not explain a great deal of the existing variation in educational attainment and career choice" (Robb and Spencer, 1976: 72). Often, consideration of economic factors is linked with discussions of how parents view their male and female children's success in life. It has been asserted that the dispensing of family resources tends to be governed by socio-cultural definitions of sex roles which stress the significance of educational and occupational achievement for males, but deny or ignore the importance of these types of attainment for females (Williams, 1972: 113). The socialization argument emphasizes early sex-typed reinforcement with regards to clothes, toys and activities. Following this line of reasoning, this type of encouragement eventually becomes translated into career choices that have traditionally been defined as sex-appropriate. So far the explanation is plausible. However, the scenario tends to be extrapolated.

Frequently, female adolescents are portrayed as less highly motivated than their male counterparts. It is suggested that since females lack ambition, interest and the desire to achieve, their educational and occupational aspirations tend to be lower than male aspirations. Such differences in aspiration are held accountable for differences in status attainment and social mobility (e.g., Tepperman, 1975: 166). In short, motivational deficiencies are considered to be responsible for low levels of achievement. Consequently, some socialization authorities recommend that the level of aspiration of female youth be raised.

Of the cases with inconsistent aspirational and expectational levels in the present study, more girls than boys had occupational aspirations which were higher than their expectations. Also, of the cases with incongruent levels of aspiration and expectation over time, more girls than boys lowered their occupational expectations from Grade 10 to Grade 12. These findings concur with sex difference trends reported by Ambert (1976: 99) and suggest that for some females the problem of realistic vocational planning may not rest so much with the need to raise the level of aspiration as with the need to help them utilize personal, educational and social resources in ways which maximize opportunity. According to Whitehurst (1977: 10), the answer lies "not in the inherent inferiority or lack of ambition in women, but in the oppressive structures of American society."

Discussion of Findings re: Analysis Extension

This section is devoted to a discussion of the main findings which emerged when the analysis was extended in order to examine the interrelationships among the independent variables.

To begin with, the results of this segment of the study support the recent research practice of disaggregating socioeconomic status into its component parts - mother's education, father's education and father's occupation (cf. Hauser, 1972). For the male students mother's education played an important role; whereas, for the female students father's occupation predominated.

The finding that, with respect to the boys' data, mother's education has a positive effect on family size runs counter to reports that more highly educated women tend to have smaller families. An interpretation of this finding which considers community context might account for the apparent trend reversal in the present study. It is necessary to note that single enterprise communities provide very few occupational opportunities for highly educated women, especially highly educated married women. The main employers are reluctant to hire husbands and wives from the same families and positions not associated with the dominant companies (e.g., in education and health care) are scarce. Women with less education are able to find employment in the service sector (e.g., salespersons, waitresses, etc.), but those with more specialized education and training find it difficult to exercise occupational options. Thus, the highly educated women, faced with few career continuation prospects, may become more enmeshed in the roles of wife and mother and may, in turn, tend to have larger families. Furthermore, the positive effect of mother's education on son's geographical mobility orientation, net of the other independent variables, may be a reflection of the mother's own experience. Mothers, who themselves have been exposed to higher education, may be acutely aware of the lack of occupational opportunities in their community of residence and thus, be more inclined to support, or even actively encourage, their sons to explore alternatives elsewhere.

In addition, the finding that community isolation has a positive effect on the boys' mothers' educational encouragement is in keeping with this line of interpretation. Mothers residing in the more isolated communities tend to encourage their sons to achieve in the area of education, possibly because education is viewed as the main avenue of advancement. Boys from the more isolated communities tend to be less optimistic with respect to their appraisals of occupational opportunities and tend to be less interested in the expressive dimensions of occupations. These results appear to be commensurate with certain aspects of the daily rounds of life in relatively isolated communities. Considering the dominance of the single enterprises in these settings, it is understandable that these boys would regard the range of occupational positions available to them as circumscribed. From the point of view of providing occupational role models, the more isolated communities constitute restricted interactional situations. In terms of adult contact, the youths are likely to interact mainly with employees of the major company. Thus, their firsthand impressions of the local labor market tend to be gleaned from conversations centering on the current state of working conditions, wages and fringe benefits at the mine or mill. Given these circumstances, it is reasonable that the boys residing in the more isolated communities are oriented toward occupations that provide the basics in terms of sustenance and survival (e.g., salary) as opposed to self-fulfillment and social contribution.

The above discussion also sheds some light on the negative effect of community isolation on program in school. Boys residing in more isolated communities tend to be enrolled in the technical training and vocational programs of study, rather than the university entrance stream. This pattern appears to be consistent with the pragmatic tone characterizing the relatively isolated communities.

Similarly, female students residing in the more isolated communities tend to be enrolled in vocational courses more often than their less isolated counterparts. However, for the girls, the more isolated their community of residence the less instrumental their educational and occupational values. This finding may reflect the fact that the female role models most visible to girls residing in isolated communities are of the expressive variety (e.g., teachers, nurses, social workers), whose routine duties emphasize helping humanity. On the other hand, girls living in less geographically remote areas have a greater array (albeit still limited) of role models to emulate and these role models perform occupational activities which heighten the salience of both instrumental and expressive concerns.

Also, girls from the more isolated communities tended to register higher mental ability scores. This finding reinforces the idea that what sociologists measure and call human intelligence is a broad coping ability, which is essentially learned and, hence, varies significantly with environment (Hoult, 1974: 14). In the isolated communities, school class sizes are small and the girls' mental ability scores may be the result of intensified small group learning situations and individualized attention on the part of their teachers. The finding that boys and girls from smaller communities tend to have higher average marks also concurs with this interpretation. In keeping with the environmentalist position advanced above, the positive effect of community size on the boys' and girls' mental ability scores may be indicative of increased sociocultural stimulation associated with larger centers.

The finding that girls from larger communities tend to emphasize instrumental educational and occupational values fits with the earlier explanation regarding the existence of more female role models involved in diverse occupations which exemplify instrumental, as well as expressive, job characteristics. Also, the occupational options in larger communities include inroads into some traditionally male dominated fields (e.g., business) with their attendant instrumental value orientations focusing on salary, prestige and advancement considerations. Girls from larger communities may be more aware of these openings and orient themselves accordingly.

With respect to mobility, girls from the larger communities are less likely to express a desire to leave their current places of residence, possibly because they are reasonably content with the opportunities available to them. Girls from the smaller communities, on the other hand, must be prepared to move to find almost any type of employment.

In addition to increasing the number of socioeconomic background variables, the present study included another family-related variable, namely, family size. Past research suggests that the bulk of family size influence operates in a negative direction (e.g., Duncan, Featherman and Duncan, 1972: 62). The following results support the established trend. Male students from larger families are less likely to appraise their occupational opportunities positively and less inclined to leave their communities of origin. These findings imply that boys from larger families are expected to stay closer to the family circle in order to provide economic and emotional support for other siblings. Careful consideration of the girls' data reveals that the influence of family size manifests itself in a different fashion. For the girls, family size has a negative effect on the strength of their mothers' educational and occupational encouragement. Girls from larger families are less likely to be encouraged by their mothers to achieve in the educational and occupational spheres. This finding may reflect the mothers' consideration of economic constraints and is in keeping with previous results regarding sex differentials in the allocation of scarce resources. Traditionally, large families have given preferential treatment to male members when it came to sponsoring educational and occupational endeavors (cf., Williams, 1972: 113).

An alternative interpretation, which does not implicate economic factors, is also plausible. Mothers, who themselves are responsible for larger families, are perhaps more likely to define the roles of housewife and mother as appropriate for their daughters and, explicitly or implicitly, devaluate additional educational and occupational involvement. The idea that some of the girls' mothers give priority to the career of homemaker is evidenced by their responses to an open-ended question regarding their daughter's occupational choice.[10] Several mothers stated that they would like to see their daughter become "a wife and mother" and some responded that they would like to see their daughter follow in their own footsteps and devote their time and energy to raising a family. It is interesting to note that these mothers regarded their daughter's decision as being of the "either-or" ultimatum type, rather than entertaining the idea of a possible combination of family and occupational pursuits.

For the boys, measured mental ability has positive effects on three subsequent variables: appraisals of occupational opportunities, average marks and program in school. Firstly, these findings offer some support for the assertion that the higher an individual's intelligence, the more able he is to achieve academically. Thus, these findings concur with the results of past studies which report the existence of a substantial positive effect of mental ability on academic performance (e.g., Sewell, Haller and Portes, 1969; Sewell, Haller and Ohlendorf, 1970). In addition, they comply with the contention that, based upon the rationale for a differentiated system of programs, the higher one's mental ability, the greater the likelihood of being in a university entrance stream rather than a vocational program (cf., Gilbert, 1977: 291). These findings are not replicated with respect to the girls' data. Instead, linkages are discerned between measured mental ability and the girls' instrumental educational and occupational value orientations. It appears that girls with higher mental ability scores place less emphasis on educational and occupational endeavors as means to other ends (e.g., salary and prestige).

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[10] As mentioned in Chapter I, the present study was part of a larger project which examined the role of the educational system and the aspirations of high school students in the five single enterprise communities. The final phase of the overall study elicited information from the students' mothers by means of a "Questionnaire for Mothers" (see Smith, 1972:416-428).

When consideration is given to the subjective factors, it is interesting to note that instrumental educational values, appraisals of educational opportunities and leadership ability all have a positive impact on the boys' average marks. It could be argued that positive appraisals of selected aspects of self and situation, plus a pragmatic orientation toward educational goals, can increase a student's confidence when it comes to competing in the so-called "grading game" and, thus, result in higher school grades (cf., Gilbert, 1977: 289). A similar interpretation can be advanced regarding the girls' data since appraisals of educational opportunities and leadership ability also have a positive impact on the girls' average marks.

For the boys, leadership ability and expressive occupational values have a positive effect on their geographical mobility orientations; whereas, instrumental occupational values have a negative effect. This set of results suggests that individuals interested in the immediate gratifications associated with instrumental rewards are more inclined to take advantage of the occupations available in their own community. On the other hand, those who have confidence in their leadership abilities and who emphasize expressive occupational characteristics (e.g., the chance to use special skills and abilities, the chance to be creative and the chance to work with other people and contribute to society) are inclined to relocate.

In the context of the present study, the influence of "significant" or "relevant" others is tapped by indicators of parental encouragement with respect to educational and occupational achievement. The family of orientation, already considered in terms of its relevance to background, is here thought of as a prime source of emotional support and encouragement. The present study is limited in that information on the influence of teachers and peers is lacking. However, it provides additional insights into patterns of parental encouragement because each of the four variables is introduced separately rather than as a composite measure. Thus, it is possible to identify the antecedents of each of these variables and to assess their relative impact on the dependent variables.

Past studies have found that socioeconomic status and academic performance have direct effects on significant others' influence (e.g., Bordua, 1960; Sewell and Shah, 1968b; Sewell et al., 1969 and 1970). Similar effects are noted for the female students in the present study, but not for the male students. For the girls, father's educational and occupational encouragement are affected by father's occupation and mother's occupational encouragement is affected by the girls' average marks. It appears that paternal encouragement depends on socioeconomic background, while maternal encouragement depends on the girls' grades. This latter finding suggests that significant others, mothers in this case, align their expectations with the daughters' abilities as demonstrated by their marks. Thus, the encouragement given by the girls' mothers may be interpreted as an egalitarian force in the achievement process insofar as it depends more on academic performance than on socioeconomic background. The encouragement given by the girls' fathers, on the other hand, appears to represent a more conservative force because it reflects socioeconomic origins to a greater degree.

However, a somewhat different picture emerges when a male-female comparison is made. For the most part, parental encouragement of the male students appears to be based on the boys' expressed interests as reflected in their educational and occupational values and the boys' subjective appraisals of their educational opportunities; whereas, parental encouragement of the female students appears to be more contingent upon family factors (e.g., father's occupation and family size) and performance in school as indicated by the girls' average marks. Although, it should be noted that the girls' own appraisals of their education opportunities have positive effects on the parental encouragement variables. On the whole, however, these findings seem to substantiate Williams' (1972: 113) assertion that, given the particular structuring of sex roles within the society at large, some parents still believe that

> . . . while education is good for all, it is only necessary for boys and, as a result, boys should have every chance, girls only if they show evidence of their ability to succeed.

Additionally, it is interesting to note that, for the boys, expressive occupational values have a positive impact on parental occupational encouragement; whereas, instrumental occupational values have a negative effect. These findings suggest that parents, to a certain extent, are responsive to their children's stated desires. It is possible that parents screen their offspring's occupational interests and adjust their encouragement accordingly. For example, if a son indicates that he would like a position wherein he could express himself and contribute to society, the parents might encourage him to achieve professional status (e.g., a doctor or lawyer). On the other hand, if the son is interested exclusively in instrumental gains, a lower status, but more lucrative, field might might be recommended. This line of action is especially feasible with respect to single enterprise communities where the wage scales of certain local occupations (e.g., heavy equipment operator) are particularly attractive.

For the girls, expressive occupational values have a positive effect on mother's encouragement for continuing education. This result may reflect the fact that the traditionally female dominated careers, which emphasize self-fulfillment and service to society (e.g., teaching, nursing and social work), require education and training beyond high school. The mothers of the female students in the present study appear to be cognizant of this connection.

For both boys and girls, average marks have a positive effect on program of study. Thus, male and female students appear to have been allocated to programs in accordance with their past academic performance. More specifically, it appears that the good students are being sorted into the more difficult programs. And finally, an anomalous finding warrants consideration. For the girls, average marks have a negative effect on mother's occupational encouragement. Two interpretations seem plausible. First, aware of their daughters' academic achievements, the mothers might prefer that they continue their education and postpone occupational involvement. Hence, the mothers may refrain from giving their daughters occupational encouragement lest it be applied to the near, as opposed to distant, future. Secondly, the mothers may not consider achievement in the occupational sphere as appropriate for their daughters and may feel that they must de-emphasize this type of achievement in order to counteract outside inducements (e.g., high grades given by teachers).

Having presented and discussed the major findings pertaining to the hypotheses testing procedure and an extension of the analysis, we turn to the concluding comments in the final chapter.

Chapter VI

SUMMARY AND CONCLUSIONS

This chapter endeavors to place the study in perspective. Initially, the major objectives and overall design of the study are reviewed. The second section is devoted to a summary of the main findings. Concluding comments, indicating possible implications the results of the present study have for future research and relevant action programs, are advanced in the final section.

The purpose of the present research was twofold. First, it attempted to examine the interplay between levels of aspiration and expectation (consistency of choices) and identify some of the factors affecting aspiration-expectation interrelation. Second, it endeavored to follow levels of occupational expectation over time and levels of occupational aspiration over time (congruency of choices) and discern factors associated with them.

A review of existing literature and research revealed that scant attention has been paid to the determinants of aspiration-expectation discrepancy. Likewise, longitudinal data are scarce. Initially, studies attempting to identify correlates of adolescents' achievement orientations were surveyed; then, the research on aspirational and expectational stability and change was reviewed. The general studies indicated several categories of factors (e.g., self-related factors, family-related factors, school-related factors, community-related factors, etc.) capable of affecting vocational decision-making. The more specific research suggested change, rather than stability, tends to characterize adolescent educational and occupational choice patterns.

Ample evidence attests to the fact that a considerable amount of effort has already been expended in attempts to identify socio-cultural correlates of adolescents' achievement orientations. Some consistent relationships have been discovered and endeavors to enumerate significant determinants continue. Blau and Duncan (1967: 175) have commented that: "It is all too easy to make a list of unmeasured variables that someone has alleged to be crucial to the process under study." Similarly, Gilbert (1977: 281) has pointed out that

> . . . while these variables have been related to educational and occupational aspirations, there has been no attempt to generate an explicit theoretical framework encompassing the processes and structures involved in the formation of aspirations.

Since past research has focused on independent variables, the specification of dependent variables has been fraught with difficulties. In addition, existing studies have been hampered by the lack of longitudinal data. Cognizant of these considerations, the present study represents a decided advance on two counts. The problem is addressed from a different perspective and a different analytical strategy is adopted. By the introduction of two new types of dependent variables (i.e., consistency and congruency scores), hitherto untried, it was anticipated that insight into the operation of vocational decision-making mechanisms and the factors affecting them would be gained. Also, insofar as the data employed in the present study was gathered from the same students at two points in time, it was anticipated that the analysis would provide much needed information on the operation of vocational decisions over time.

To gain insight into the phenomena under study and to focus the phases of the problem being investigated, a conceptual framework was formulated. This conceptual orientation was addressed to the resolution of two theoretical issues pertaining to the structure and process of occupational decision-making. In essence, the conceptualization contends that the way in which an adolescent integrates his occupational preferences (i.e., aspirations) with the practical plans he has with respect to an occupation (i.e., expectations) at one point in time (i.e., consistency) and the manner in which he brings them together over time (i.e., congruency) are determined by certain subjective and objective factors, which are amenable to empirical examination and analysis. The anticipated operation of these factors was spelled out more explicitly with the presentation of twenty-two hypotheses.

The data, required to test the hypotheses, were gathered by means of questionnaires administered to students in Grade 10 (1969) and again in Grade 12 (1971). The requisite information was available for 262 students (132 males, 130 females) residing in the five single enterprise communities of Flin Flon, Lynn Lake, Pine Falls and Thompson, Manitoba and Red Lake, Ontario.

Data were obtained that provided measures of personal factors (e.g., leadership ability, educational and occupational value and opportunity orientations); family background factors (e.g., socio-economic status, parental educational levels, perceived parental encouragement); school-related factors (e.g., program in school, average marks, mental ability); and community-related variables (e.g., size and isolation of community of residence, geographical mobility orientation) and the respondents' levels of occupational aspiration and expectation.

The statistical technique employed in testing the hypothesized relationships was multiple regression analysis. In addition, an extension of the analysis was included to provide information on interrelationships among the independent variables. In view of the number of previous studies documenting sex differences in the propensity to pursue higher educational levels and higher status occupations, separate analyses were conducted for the male and female data.

The relationships found between the selected background factors and the students' levels of occupational consistency and congruency have been presented, summarized and discussed in Chapter V.

A summary of the specific questions asked and answers arrived at through this study are presented below.

1. Do the students surveyed have consistent levels of occupational aspiration and expectation at time one (Grade 10)?

Only 5 percent of the boys and 2 per cent of the girls registered complete occupational consistency at time one. However, if the cases in the adjacent category (i.e., less than eleven scale points apart) are added to the percentages given above, the figures indicate that 65 per cent of the boys and 66 per cent of the girls in the tenth grade had moderately consistent levels of occupational aspiration and expectation.

2. What factors have an impact on the consistency of the students' levels of occupational aspiration and expectation at time one (Grade 10)?

The amount of variation accounted for in level of occupational consistency at time one is similar for the boys and girls, 27.7 per cent and 26 per cent, respectively. The variance in the boys' levels of occupational consistency at time one is largely accounted for by two factors: instrumental occupational values and father's occupational encouragement. For the girls, the variance in level of occupational consistency at time one is accounted for by five variables: community isolation, expressive educational values, instrumental occupational values, leadership ability and father's educational encouragement.

3. Do the students surveyed have consistent levels of occupational aspiration and expectation at time two (Grade 12)?

For both boys and girls, only 4 per cent had identical levels of occupational aspiration and expectation at time two. However, if the cases in the adjacent category (i.e., less than eleven scale points apart) are added to the percentages given above, the resultant figures indicate that 67 per cent of the boys and 51 per cent of the girls in the twelfth grade had moderately consistent levels of occupational aspiration and expectation.

4. What factors have an impact on the consistency of the students' levels of occupational aspiration and expectation at time two (Grade 12)?

For the boys, 23.1 per cent of the variation in their levels of occupational consistency at time two is accounted for by the background factors. Similarly, for the girls, these factors explain 21.7 per cent of the variance in their levels of occupational consistency at time two. The variance in boys' levels of occupational consistency is largely accounted for by five variables: instrumental occupational values, leadership ability, father's and mother's educational encouragement and father's occupational encouragement. For the girls, two determinants predominated: namely, community size and average marks.

5. Are the students' tenth grade levels of occupational expectation and aspiration congruent with their twelfth grade levels of occupational expectation and aspiration?

Only 9 per cent of the boys and 5 per cent of the girls registered complete congruency with respect to levels of occupational expectation over time. For both boys and girls, 8 per cent indicated exactly the same levels of occupational aspiration in the tenth and twelfth grades. However, if the cases in the adjacent category (i.e., less than eleven scale points apart) are added to the percentages given above, the resultant figures indicate that 80 per cent of the boys and 83 per cent of the girls had moderately congruent levels of occupational expectation over time; and, that 91 per cent of the boys and 92 per cent of the girls had moderately congruent levels of occupational aspiration over time.

6. What factors have an impact on the congruency of the students' levels of occupational expectation and aspiration over time?

Taken together, the independent variables account for 27.7 per cent of the variation in the boys' levels of occupational expectation congruency and 16.6 per cent for the girls. The variance in the boys' levels of occupational expectation congruency is largely accounted for by three factors: mother's education, community size and the boys' geographical mobility orientations. For the girls, three different determinants are evident; namely, mental ability, instrumental occupational values and average marks.

The selected background factors account for only 17.6 per cent of the variation in the boys' levels of occupational aspiration congruency with two determinants discernible: instrumental educational values and maternal educational encouragement. Similarly, 19.2 per cent of the variation in girls' levels of occupational aspiration congruency is explained by the background factors. Three factors are most important: mental ability and father's educational and occupational encouragement.

7. Are the male students' levels of occupational aspiration and expectation more consistent and congruent than those of the female students?

In Grade 10, a slightly larger percentage of male students (5 per cent), as compared with female students (2 per cent), had consistent levels of occupational aspiration and expectation. In Grade 12, the same percentages of male and female students had consistent levels of occupational aspiration and expectation (4 per cent each). More male students (9 per cent) than female students (5 per cent) had congruent levels of occupational expectation. The percentages of boys and girls with congruent levels of occupational aspiration and expectation were the same (8 per cent each).

The male and female students make similar showings when the moderately consistent categories are compared with respect to level of occupational consistency at time one (boys - 65 per cent; girls - 66 per cent). Similar parallels are detected when the moderately congruent categories are compared with respect to level of occupational expectation congruency (boys - 80 per cent; girls - 83 per cent) and level of occupational aspiration congruency (boys - 91 per cent; girls - 92 per cent). In the case of level of occupational consistency at time two, however, more male students (67 per cent) than female students (51 per cent) qualify as moderately consistent.

Summary of Contributions and Suggestions for Future Research

At the outset, it was anticipated that this study would have theoretical, methodological and practical significance. While the findings are by no means definitive, they are certainly suggestive. Concluding comments are combined with suggestions for future research in the following sections:

As outlined previously, the conceptualization of occupational choice has undergone considerable development during the last three decades. Given this trend, (see Della Fave, 1977: 384), the theoretical framework developed for the present study represents a significant contribution in its own right. It contended that occupational choice should be conceptualized as a process which is comprised of a series of point-in-time decisions (events). At each decision or "choice" point the individual attempts to align idealistic (i.e., aspirations or preferences) and realistic (i.e., expectations or plans) structural components. The degree of consistency found between levels of aspiration and expectation indicates the extent to which a compromise has been effected and the issue resolved, temporarily at least. Furthermore, it asserted that as the individual moves through the life cycle his aspirations and expectations undergo varying changes because they are affected by different personal and sociocultural factors. Thus, a variety of influences were depicted as affecting the individual's integration of the decisional components at one time point (i.e., consistency) and over time (i.e., congruency).

Regarding the structure of a vocational decision at a particular point in time, the present study argued that it is necessary to distinguish (conceptually and empirically) between what a person wants (level of aspiration and what a person expects to get (level of expectation). The

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10

extent that they should be considered substantively

dologically as synonymous (cf. Harrison, 1969: 73).

neous measurement of both levels is recommended rath

ummated indicators. The use of summated measures wo

he comparisons possible in the present study. This

investigate the nature of the inconsistencies noted

with inconsistent levels of aspiration and expectati

o present percentages indicating those who had aspir

higher than their expectations, the discrepancy usua

rature, and those who had expectations higher than t

t studies have not come across many cases of the lat

tion advanced to account for the apparent anomaly is

amily pressure. It is conceivable that a student ma

ght of continuing his (her) education but, when aske

ations, realizes that he (she) will eventually acqui

his (her) immediate or, perhaps, extended family. Th

pears plausible but, because data on this matter wer

incorporated in the present study, must remain specu-

xamination of the interplay between aspirations and

., consistency) in the present study extends existin

onsistency from time one to time two, lends support to three aspects
the theoretical framework advanced. First, the changes observed
nforce the idea that earlier choices are correctly depicted as "quas
ble equilibriums." Second, the changes observed suggest that the
sent study has tapped the interplay between separable components
pirations and expectations) and support the idea that a particular
tative choice may be biased in the direction of one of the decisiona
ponents (e.g., it may be more ideal than real). Third, the changes
erved lend credence to the conceptualization of a series of mini-
conciliations between levels of aspiration and expectation, which
lies that the integration attained is not unalterable or irreversibl
visions and retreats are to be expected. For some of the students th
gnment achieved in Grade 10 was temporary and subject to reconsider-
ion in Grade 12.

Scrutiny of the changes in levels of aspiration and expectation o
me (i.e., congruency) reinforces the idea that it is an oversimplific
on to conceive of occupational choice as occurring at a single point
me. More accurately, vocational choice should be conceptualized as a
ocess comprised of a series of several successive, interrelated decis
curring over time. For example, the finding that 47 per cent of the
ys and 56 per cent of the girls had lower levels of occupational ex-
ctation in Grade 12 than in Grade 10 supports the idea that the high
hool years provide a period of testing (Della Fave, 1977: 374). For
me, this no doubt necessitates re-evaluation and revision of their
ucational expectations in light of personal assets and liabilities as

Perhaps one of the most important conclusions to be drawn from the
ious analyses of the students' levels of occupational consistency and
gruency is that they are responsive to a number of influences, includ-
self-related, family-related, school-related and community-related
tors, but no single influence appears to be of overriding importance.
s study clearly documents the complexity of the occupational choice
cess. Occupational consistency and congruency are determined by a
iad of factors that vary in the magnitude of their impacts.

The initial set of hypotheses advanced introduced the self-related
tors. While the students' assessments of their leadership capabilities
statements of their educational and occupational values proved relevant
relative importance of their opportunity orientations was minimal.
extension of the analysis, however, indicated that the students'
raisals of their educational and occupational opportunities command
ention with respect to the patterns of mediated influence that they
ly. Future researchers should devise more sophisticated measures which
e into account the social constraints upon an individual's opportunity
advancement and the circumstances from which an individual's per-
tion of attainable goals and level of ambition derive. Also, a con-
ted effort should be made to examine the extent to which students'
raisals of their opportunities are commensurate with reality.

Past studies have pointed to the pervasive influence of socioeconomic
tus throughout the attainment process (e.g., Alexander, Eckland and
ffin, 1975: 339; Gilbert, 1977: 293). The present analysis did not
ld similar results. However, in view of the data base being single
terprise communities, it might not be unreasonable to expect some attenu-

ation of the influence of social origins. In their discussion of the educational and early occupational attainment of farm boys, Sewell, Haller and Portes (1969: 91) point out that in populations with a more differentiated socioeconomic background "the effects of socioeconomic status on subsequent variables may be significantly increased." Comparison would be facilitated if additional studies of occupational consistency and congruency were conducted with respect to less homogeneous populations Furthermore, the lack of significant relationships between the objective family factors (i.e., father's occupation, father's and mother's education and family size) and the dependent variables in the present study may be accounted for, in part, by the stage of the sample (i.e., Grade 10 and Grade 12 students). It is suggested that, in relatively remote single enterprise communities, socioeconomic constraints operate early and take their toll in terms of drop-outs prior to Grade 10.

Insofar as the family is concerned, it was found that subjective factors (i.e., parental educational and occupational encouragement), as opposed to objective factors (i.e., father's occupation, father's and mother's education), had more pronounced impacts. Moreover, the nature of some of the relationships noted in the present study alerts this investigator to the idea that parental encouragement, if perceived or interpreted as pressure, tends to augment occupational inconsistency and incongruency. Thus, parental encouragement has potential for complicating the decision-making process. The findings of the present study set the stage for closer scrutiny of the interactional network of the family group and its day to day impact on the consistency and congruency of occupation

With respect to the hypotheses testing procedure, the school-
ated variables (i.e., mental ability, average marks and program o
dy) made a poor showing. While mental ability and average marks
some impact on the girls' levels of occupational consistency and
ency, this was not the case for the boys. It was found that girl
her mental ability scores tended to have more congruent levels of
upational expectation and aspiration over time. The findings wit
pect to average marks were not as straightforward. On the one ha
ls with higher grades had more consistent levels of occupational
iration and expectation at time two, but had less congruent level
upational expectation over time. Program in school did not have
act, net of the other independent variables, on either the male o
ale students' levels of occupational consistency and congruency.
k of telling relationships regarding the school-related variables
luded in the present study suggests that occupational consistency
gruency represent components of a decision-making process which a
e susceptible to situational contingencies and pressures than the
dependent variables employed in previous studies (cf., Katz and M
2). Following the lead of the "new" sociologists of education, w
ouse an interpretative approach, future studies should focus on t
ernal workings of schools in single enterprise communities. Prop
the above mentioned perspective argue that by examining aspects o
text, such as classroom interaction, categories used by educators
riculum, insights could be gained on the ways in which student in
desires are screened, molded, redirected and reinforced (Karabel

ines of research, intent on exploring the varied experiences that con
titute schooling, may be promising.

In addition, it should be noted that the extension of the analys
ncovered relationships among the achievement variables that parallele
hose reported in past studies, namely: for both boys and girls, aver
arks were positively related to program in school (e.g., Gilbert, 19

Furthermore, the results of the present study attest to the fac
hat the inclusion of the community-related variables (i.e., community
ize and isolation) was worthwhile. For both the male and female stu
limited number of relationships were noted between these variables
evels of occupational consistency and congruency. The findings yiel
y the analysis extension also suggest that community size and isolat
xert important influences on some of the other background factors (e
ducational and occupational values, opportunity orientations and ach
ent and encouragement variables). On the whole, the community-relat
ariables provide valuable insights into the ways in which contextual
ircumstances affect career planning behavior.

With respect to sex differences, several past studies have been
ased on the assumption that patterns of achievement for men and wome
re quite distinct. It has been pointed out that "different variable
e relevant, or the same variables may have different weights" (Dunca
eatherman and Duncan, 1972: 15). In the present study, comparisons
he boys' levels of occupational consistency at time one and time two
hose of the girls revealed striking similarities. One exception is

cent; girls - 89 per cent) and time two (boys - 81 per cent; girls - 92 per cent). When the boys' levels of occupational expectation and aspiration congruency were compared with those of the girls, similarities still predominated. In this instance, two exceptions command attention. Although the difference is slight, more girls (95 per cent) than boys (91 per cent) registered incongruent levels of occupational expectation. Also more girls (56 per cent) than boys (47 per cent) lowered their levels of occupational expectation from Grade 10 to Grade 12. On the whole, parallels also tend to prevail when patterns of relationships between the independent and dependent variables are compared. However, three variables (mother's education, mother's educational encouragement and geographical mobility orientation) had impacts on the boys' levels of occupational consistency and congruency but not the girls'; whereas, two variables (mental ability and average marks) had impacts on the girls' levels of occupational consistency and congruency but not the boys'.

One important difference was revealed by the extension of the analys As stated earlier, it was found that parental encouragement of the male students tended to be based on the boys' own values and appraisals of opportunity; whereas, parental encouragement of the female students tended to rely more heavily on family factors (i.e., father's occupation and family size) and academic performance (i.e., average marks). To receive encouragement, it appears that the boys only have to state their interests whereas the girls must prove themselves or, at the very least, give evidence of potential. In this sense, systems of sponsorship and allocation

> Boys generally seem pressed toward higher education and elite status while girls, it would seem are allowed to strive for a place in the educational and occupational hierarchy (Schwarzweller, 1976: 214).

hodological:

Discussions pertaining to the postindustrial prolongation of
olescent experience, especially those referring to the extension
mber of years of formal education (e.g., Sebald, 1977: 51), rais
estions with respect to the locus of occupational decision makin
es future occupational placement still qualify as "one of the mo
portant decisions the person may make during the adolescent peri
cou and Cosby, 1971: 307)? Does modification of occupational g
company high school graduation or is it conveniently postponed u
dividuals are confronted with thoughts of college graduation? E
idence tends to support the idea that students still wrestle wit
tional and occupational issues fairly early. For example, Davis
) concludes that changes in career choice during college reinfor
ndencies established earlier. The trends discovered were toward
centuation, not the reversal of, pre-college decisions. Accordi
vis (1965: 31), the last two years of high school form the most
riod for vocational choice. Needless to say, this is precisely
an represented in this study.

As pointed out by Della Fave (1977: 373 and 385) most of the
aspirations is strictly cross-sectional and even existing longi

is respect because it provides measures of the same subjects' oc
tional aspiration and expectation levels at two points in time.
is study is useful in improving our understanding in this area,
mited in terms of the shortness of the time period involved. Ad
ngitudinal studies are required if stage-wise specification of t
cational development process is to be accomplished.

The variety of relationships found between the background ch
tics and measures of consistency at time one and time two and co
ert future researchers to the idea that different influences dom
different points in the process. In sum, if the present type
search were continued it might lead to the identification of cu
ages in vocational development that have been postulated in the
ldom confirmed in practice because of a lack of longitudinal da

The results of the present study provide support for the re
search practice of disaggregating composite measures (cf., Haus
hree socioeconomic background variables (i.e., father's occupati
ather's and mother's education) and four indicators of significa
nfluence (i.e., paternal and maternal educational and occupation
ouragement), traditionally treated together, were entered into t
ultiple regression equations separately. Thus, it was possible
he antecedents of each of these variables and to assess their re
mpact on the dependent variables. Several findings reported in
tudy would go undetected if each of the components of socioecono
nd parental encouragement had not been examined separately.

In closing this section, it is necessary to note that the and time two and their levels of occupational expectation and aspiratio congruency explained by the various predictive factors were not as larg as expected. The proportion of variance explained by the predictor variables ranged from a low of 16.6 per cent for the girls' levels of occupational expectation congruency to a high of 27.7 per cent for the boys' levels of occupational consistency at time one and their levels o occupational expectation congruency. Although the proportions of variance in the students' levels of occupational consistency and congruency explained by the selected background factors is not as large as expected, it is a reasonable amount considering the uniqueness of th dependent variables in the context of previous research. The unexplain variation leaves scope for speculation. It is possible that this study has failed to identify the appropriate variables to carry out the tests or that there are measurement errors in the data.[11] Because of weaknes with respect to some of the basic theoretical assumptions and/or measur ments, many of the specific empirical generalizations concerning consistency and congruency may be in error.

Practical:

The findings of the present study also have implications for parents trying to decide what constitutes appropriate input and involvement on their part. By providing information on the inconsistencies an

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[11] For example, the use of "difference scores" in operationalizing the dependent variables has drawbacks. Haller and Portes (1973: point out that "because such a score is not a simple measure but a composite of initial and terminal positions, its statistical manipulati is fraught with difficulties."

incongruities experienced by some of the students, the present stu
sensitizes parents to the dynamic nature of the occupational choic
process, in general, and, more specifically, to a sample of the di
faced by their own children. Given a developmental framework (Roc
1966: 217), fluctuations in family influence are comprehended more
In view of Tepperman's (1975: 196) assertions which suggest "a bac
between current aspirations and the pattern of mobility prevailin
Canada at this time," mention should be made of the parents' uniqu
position: namely, assisting their adolescents in coping with the
frustrations and disappointments that often accompany attempts at
alignment of preferences and plans.

In addition, the educational system is structured in such
that decisions required by the student may be aided. Increasing
recognition is being given to the role of "decision counselor" (Ja
and Wheeler, 1978: 67). Guidance counselors or advisers are deem
necessary to help students avoid career mistakes and occupational
In relatively isolated single enterprise communities the educator
of disseminating comprehensive data about occupations becomes mor
ing. Given the findings of the present study with respect to the
nificant number of students who changed some aspects of their edu
and occupational orientations over time, the dangers of forcing c
lar and occupational decisions prematurely become obvious. Futur
research should investigate the extent to which the consistency a
gruency of students' levels of aspiration and expectation are lin
crucial choice points in the educational process.

occupations and the lengthening of their average work tenure necessit a re-thinking of some of the traditional views on female involvement the labor force (e.g., women's work as a short term expedient and the incompatibility between working careers and home-making) by some pare and teachers. Those advising girls now in high school should take in consideration that these girls "may typically be expected to spend twenty-five years of their remaining lives in the labor force" (Borow 1966: 379).

Further investigation of the similarities and differences in and female work-related values, opportunity orientations and patterns aspiration and expectation is warranted. If differences are discover the question of whether they are attributable to attitudinal or struc factors still remains.

Previous studies focusing on the development of occupational motives and roles classify high school students as "pre-employed you (e.g., Borow, 1966: 374). This label constitutes an accurate represe tion with respect to regular full-time employment, but does not cove considerable number of contemporary students who work part-time. Li service has been given to the linkages between early work experience after-school, weekend and summer jobs) and eventual occupational pla ment. However, the impact of this type of exposure to the occupatio structure and specific vocations therein remains to be explored.

Boundaries between school and work are becoming blurred in a way. Many students can anticipate continuing their education after ing the labor force. A variety of learning experiences (e.g., eveni classes, refresher courses, in-service training programs, industrypace with new knowledge and technical skills. Observers of occupation trends foresee the necessity of the typical worker of the future to retrain two or three times during his working life span. It would be erroneous to conclude that the influence of personal background and social environment variables upon occupational behavior ends with the specification of goals or with actual entrance into an occupation. It is conceivable that a number of the experiences associated with pre-employment vocational development continue to influence a person's car pattern, directly and indirectly, long after entrance into the labour force. Thus, studies like the present, which attempt to identify fact associated with stability and change in adolescent occupational aspirations and expectations, lay the ground work for future career pattern research designed to investigate the checkered work histories of adult

In essence, the challenge facing contemporary parents, educato employers and community planners is to devise programs which strike an appropriate balance between continuity and change. This constitutes a especially difficult task for residents of single enterprise communiti who cope daily with the fear that technological and economic change mi bring about the disappearance of their whole way of life. There is a definite need for programs which do not dictate actualization, but all youth the freedom to decipher potentialities. Required are programs which encourage adaptability and experimentation without promoting the type of indiscriminate change that tends to leave adolescents confused and stymied by over-choice (cf. Toffler, 1975). Such alternatives are deemed mandatory because, as Sheehy (1977: 17) astutely observes, " .

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CENTER FOR

THE UNIVER

STUDENT

Name ....
(Last Name)

This questionnaire deals with
and your future occupational p
and answer EACH question as be

The answers you give will be h
replies of all the students ha
statistically by means of an e
attitude questionnaire and not
your own ideas without discuss

To answer, please follow the d
you do not understand a questi
this form explain it to you.

Your co-operation is greatly a

I. YOU AND YOUR FAMILY

1. Sex: Check one.

1 _____ Male

2 _____ Female

SETTLEMENT STUDIES

SITY OF MANITOBA

QUESTIONNAIRE

....
(Given Names)

your family background, your education
lans. Please read each item CAREFULLY
st as you can.

eld in strict confidence. After the
ve been gathered, they will be analyzed
lectronic computer. Although this is an
a test it is important that you express
ing them with your neighbours.

irections given with each question. If
on, please have the person giving you

ppreciated.

2. What is your present age? Check one.

1 _____ 15 years
2 _____ 16 years
3 _____ 17 years
4 _____ 18 years
5 _____ 19 years
6 _____ 20 years
7 _____ 21 years
8 _____ over 21 years

3. What is your father's occupation? Be as specific as possible. For example: sales clerk in ________Hardware Store; owns bakery and has four employees; self-employed welder. (If your father is not living, indicate what his occupation was.)

____

____

____

4. You believe that your father's job is: Check one.

1 _____ a very good job
2 _____ a fairly good job
3 _____ not a good job

5. Is your mother employed outside the home? Check one.

1 _____ employed full-time
2 _____ employed part-time
3 _____ not employed

6. What is your father's education? Check one.

1 _____ some grade school
2 _____ completed grade school
3 _____ some high school
4 _____ completed high school
5 _____ completed high school and also had other training, for example: technical training
6 _____ some university
7 _____ university graduate
8 _____ some graduate work
9 _____ graduate degree (M.D., M.A., Ph.D., etc.)

7. What is your mother's education? Check one.

1 _____ some grade school
2 _____ completed grade school
3 _____ some high school
4 _____ completed high school
5 _____ completed high school and also had other training, for example: business course, teacher training, etc.
6 _____ some university
7 _____ university graduate
8 _____ some graduate work
9 _____ graduate degree (M.D., M.A., Ph.D., etc.)

8. How long has your family lived in this community? Check one.

1 _____ less than 2 years
2 _____ 2-3 years
3 _____ 4-5 years
4 _____ 6-7 years
5 _____ 8-9 years
6 _____ 10-11 years
7 _____ 12-13 years
8 _____ 14-15 years
9 _____ more than 15 years

II. SCHOOL LIFE AND EDUCATION

9. The name of your school is ....

10. Compared with most others in your class, how would you rate your leadership ability? Check one.

1 _____ below average ability
2 _____ average ability
3 _____ above average ability

11. What program are you taking in school? Check one.

1 _____ Commercial Course
2 _____ General Course
3 _____ University Entrance
4 _____ Other (specify ....)

2. What were your average marks in Grade
Check one.

1 ______ mostly A's
2 ______ mixed A's and B's
3 ______ mostly B's
4 ______ mixed B's and C's
5 ______ mostly C's

3. When you are finished high school, wh
education? Check one.

1 ______ No further education
2 ______ Business College
3 ______ Nurses Education
4 ______ Teachers Education
5 ______ Technical-Vocational Training
6 ______ Community College (specify co
7 ______ University (specify course ..
8 ______ Other (specify ....

14. If you were completely free to choose
future education be? Check one.

1 ______ No further education
2 ______ Business
3 ______ Nurses Education
4 ______ Teachers Education
5 ______ Technical-Vocational Trainin
6 ______ Community College (specify c
7 ______ University (specify course .
8 ______ Other (specify ....

15. Realistically speaking, how good do
are for obtaining the kind of educat

1 ______ very good
2 ______ good
3 ______ not too good
4 ______ poor
5 ______ non-existent

10 and 11 subjects?

6 ______ mixed C's and D's
7 ______ mostly D's
8 ______ mixed D's and F's
9 ______ mostly F's

at are your plans for further

g (specify course ....)
ourse ....)
...............................)
...............................)

e, what would your plans for

g (specify course ....)
ourse ....)
...............................)
...............................)

you think your opportunities
ion you want? Check one.

16. Please explain why you feel that your opportunities for obtaining the kind of education you want are very good, good, not too good, poor or non-existent:

____

____

____

____

____

17. Concerning your education, which of the following best applies to your father? Check one.

1 ______ My father has strongly encouraged me to continue.
2 ______ My father has given me some encouragement to continue.
3 ______ My father has encouraged me to graduate from high school and then go to work.
4 ______ My father has encouraged me to quit school now and work.
5 ______ My father has never said much about it.

18. Concerning your education, which of the following best applies to your mother? Check one.

1 ______ My mother has strongly encouraged me to continue.
2 ______ My mother has given me some encouragement to continue.
3 ______ My mother has encouraged me to graduate from high school and then go to work.
4 ______ My mother has encouraged me to quit school now and work.
5 ______ My mother has never said much about it.

19. Concerning your educational plans, which of the following would you say has influenced you the most? Check one.

1 ______ Father
2 ______ Mother
3 ______ Both parents equally
4 ______ The teachers in your school
5 ______ One particular teacher or guidance counselor
6 ______ Friends at school
7 ______ Friends not attending school
8 ______ Relatives
9 ______ Other (specify ....)

20. People place different
purposes an education
of the following state
get out of an educatio
you, CIRCLE ONE of the
VERY UNIMPORTANT to 9

a) To help me achieve a secure way of life

b) To develop my mind and enable me to formulate my own ideas beliefs and values

c) To help me get a good paying job and become economically independe

d) To develop the ability to get along with people

e) To help me understand myself better

f) To obtain prestige and a high social position in the community

g) To help me become a good citizen in my community

h) To develop the knowledge and skills applicable to a career

degrees of importance on the various
serves. Indicate how important each
ements is in describing what you want to
n. To indicate how important each is to
numbers from 1 to 9, with 1 indicating
indicating VERY IMPORTANT.

VERY UNIMPORTANT — VERY IMPORTANT

1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8 9

nt

1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8 9

III. YOU AND YOUR FUTURE OCCUPATION

21. After your education is completed, what occupation do you plan to go into? (Give name of occupation.)

____

22. This involves what kind of work? ______________________

____

23. If you were completely free to choose, what occupation would you like to go into? (Give name of occupation.)

____

24. This involves what kind of work? ______________________

____

25. Realistically speaking, how good do you think your opportunitie
are for obtaining the occupation you want? Check one.

1 ______ very good
2 ______ good
3 ______ not too good
4 ______ poor
5 ______ non-existent

26. Please explain why you feel that your opportunities for obtainin
the occupation you want are very good, good, not too good, poor
non-existent:

____

____

____

____

____

present community? Check one.

1 _____ yes
2 _____ no

28. If you wanted to work or could work in a community other than your present community, where would you go?

Specify ____

29. Concerning your future occupation, which of the following best applies to your father? Check one.

1 _____ My father wants me to get a job that is better than most jobs around here.
2 _____ My father wants me to get a very good job.
3 _____ My father has never said much about it.
4 _____ My father does not care what kind of job I go into.
5 _____ My father wants me to get a job that is as good as most jobs around here.

30. Concerning your future occupation, which of the following best applies to your mother? Check one.

1 _____ My mother wants me to get a job that is better than most jobs around here.
2 _____ My mother wants me to get a very good job.
3 _____ My mother has never said much about it.
4 _____ My mother does not care what kind of job I go into.
5 _____ My mother wants me to get a job that is as good as most jobs around here.

31. Concerning your occupational plans, which of the following would you say has influenced you the most? Check one.

1 _____ Father
2 _____ Mother
3 _____ Both parents equally
4 _____ The teachers in your school
5 _____ One particular teacher or guidance counselor
6 _____ Friends at school
7 _____ Friends not attending school
8 _____ Relatives
9 _____ Other (specify ....

32. Below is a list of characteristics people look for when choosing an occupation. To indicate how important each of the following is to you in choosing an occupation, CIRCLE ONE of the numbers from 1 to 9, with 1 indicating VERY UNIMPORTANT to 9 indicating VERY IMPORTANT.

	VERY UNIMPORTANT								VERY IMPORTANT
a) Stable, secure future which this occupation provides	1	2	3	4	5	6	7	8	9
b) Chance to use my special skills and abilities	1	2	3	4	5	6	7	8	9
c) Chance to earn a good deal of money	1	2	3	4	5	6	7	8	9
d) Chance to work with people rather than alone or with things	1	2	3	4	5	6	7	8	9
e) Chance to be creative and original	1	2	3	4	5	6	7	8	9
f) The high social status and prestige provided by this occupation	1	2	3	4	5	6	7	8	9
g) Chance to help others and contribute to society	1	2	3	4	5	6	7	8	9
h) The amount of leisure time this occupation provides (good working hours and holidays)	1	2	3	4	5	6	7	8	9

33. The following 8 questions concern jobs. Read each question very carefully; the questions are not always the same. Please check one job in each question. Make sure it is the best answer you can give to the question. Answer every question; do not omit any. If you do not know what one of the jobs is, just ignore it.

1. Of the jobs listed in this question, which is the best one you are really sure you can get when your schooling is ove Check one.

1 _____ lawyer
2 _____ welfare worker for a city government
3 _____ a member of the House of Commons
4 _____ corporal in the army
5 _____ Supreme Court Justice
6 _____ night watchman
7 _____ sociologist
8 _____ policeman
9 _____ district agricultural representative
10 _____ filling station attendant

2. Of the jobs listed in this question, which one would you choose if you were free to choose any one of them you wished when your schooling is over? Check one.

1 _____ director of a large corporation
2 _____ undertaker
3 _____ banker
4 _____ machine operator in a factory
5 _____ physician (doctor)
6 _____ clothes presser in a laundry
7 _____ accountant for a large business
8 _____ railroad conductor
9 _____ railroad engineer
10 _____ singer in a night club

3. Of the jobs listed in this question, which is the best one you are really sure you can get when your schooling is ove Check one.

1 _____ nuclear physicist
2 _____ reporter for a daily newspaper
3 _____ district judge
4 _____ barber
5 _____ provincial premier
6 _____ soda fountain clerk
7 _____ biologist
8 _____ mail carrier
9 _____ official of an international labor union
10 _____ farm hand

4. Of the jobs listed in this question, which one would you choose if you were free to choose any one of them you wished when your schooling is over? Check one.

1 _____ psychologist
2 _____ manager of a small store in a city
3 _____ head of a department in a provincial government
4 _____ clerk in a store
5 _____ cabinet member in the federal government
6 _____ janitor
7 _____ musician in a symphony orchestra
8 _____ carpenter
9 _____ radio announcer
10 _____ coal miner

5. Of the jobs listed in this question, which is the best on you are really sure you can get by the time you are 30 ye old? Check one.

1 _____ civil engineer
2 _____ bookkeeper
3 _____ minister, priest or rabbi
4 _____ city bus driver
5 _____ diplomat in the Canadian Foreign Service
6 _____ farm renter
7 _____ author of novels
8 _____ plumber
9 _____ newspaper columnist
10 _____ taxi driver

6. Of the jobs listed in this question, which one would you choose to have when you are 30 years old, if you were fre to have any one of them you wished? Check one.

1 _____ airline pilot
2 _____ insurance agent
3 _____ architect
4 _____ milk route man
5 _____ mayor of a large city
6 _____ garbage collector
7 _____ captain in the army
8 _____ garage mechanic
9 _____ owner-operator of a machine shop
10 _____ railroad section hand

7. Of the jobs listed in this question, which is the best one you are really sure you can get by the time you are 30 year old? Check one.

1 _____ artist who paints pictures that are exhibited in galleries
2 _____ travelling salesman for a wholesale concern
3 _____ chemist
4 _____ truck driver
5 _____ college professor
6 _____ street sweeper
7 _____ building contractor
8 _____ local official of a labor union
9 _____ electrician
10 _____ restaurant waiter

8. Of the jobs listed in this question, which one would you choose to have when you are 30 years old, if you were free to have any of them you wished? Check one.

1 _____ owner of a factory that employs about 100 people
2 _____ playground director
3 _____ dentist
4 _____ lumberjack
5 _____ scientist
6 _____ shoeshiner
7 _____ public school teacher
8 _____ owner-operator of a lunch stand
9 _____ trained machinist
10 _____ dockworker

Please check to make certain that you have answered all the questions.

Thank you very much for your assistance.

Appendix B

FREQUENCY DISTRIBUTIONS OF THE INDEPENDENT AND DEPENDENT VARIABLES

Frequency Distribution of the I
Leadership Ability for the

Leadership Ability	Code	Absolut Frequen
Below average ability	1.	12
Average ability	2.	88
Above average ability	3.	32
Total		132

Mean	2.152	Std Err
Mode	2.000	Std Dev
Kurtosis	0.013	Skewness
Minimum	1.000	Maximum

ndependent Variable:
Male Students.

te ncy	Relative Frequency %	Cumulative Frequency %
	9.1	9.1
	66.7	75.8
	24.2	100.0
	100.0	

0.049	Median	2.114
0.559	Variance	0.313
0.041	Range	2.000
3.000		

TAB

Frequency Distribution o
Leadership Ability f

Leadership Ability	Code
Below average ability	1.
Average ability	2.
Above average ability	3.
Total	

Mean	2.008	Std Err
Mode	2.000	Std Dev
Kurtosis	2.333	Skewnes
Minimum	1.000	Maximu

LE B-2

f the Independent Variable:
or the Female Students.

Absolute Frequency	Relative Frequency %	Cumulative Frequency %
12	9.2	9.2
105	80.8	90.0
13	10.0	100.0
130	100.0	

r	0.039	Median	2.005
y	0.440	Variance	0.194
ss	0.039	Range	2.000
n	3.000		

TABLE B-3

Frequency Distribution of the Independent Variable:
Expressive Educational Values for the Male Students.

Educational Values: Expressive Score	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	6.	1	0.8	0.8
	10.	1	0.8	1.5
	11.	1	0.8	2.3
	12.	4	3.0	5.3
	13.	3	2.3	7.6
	14.	4	3.0	10.6
	15.	7	5.3	15.9
	16.	6	4.5	20.3
	17.	2	1.5	22.0
	18.	5	3.8	25.8
	19.	3	2.3	28.0
	20.	3	2.3	30.3
	21.	6	4.5	34.8
	22.	7	5.3	40.2
	23.	5	3.8	43.9
	24.	6	4.5	48.5
	25.	5	3.8	52.3
	26.	9	6.8	59.1
	27.	12	9.1	68.2
	28.	13	9.8	78.0
	29.	4	3.0	81.1
	30.	6	4.5	85.6
	31.	1	0.8	86.4
	32.	6	4.5	90.9
	34.	6	4.5	95.5
	35.	2	1.5	97.0
	36.	4	3.0	100.0
	Total	132	100.0	

Mean	23.750	Std Err	0.588	Median	24.900
Mode	28.000	Std Dev	6.758	Variance	45.670
Kurtosis	-0.673	Skewness	-0.249	Range	30.000
Minimum	6.000	Maximum	36.000		

TABLE B-4

Frequency Distribution of the Independent Variable: Expressive Educational Values for the Female Students.

Educational Values: Expressive Score	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	6.	1	0.8	0.8
	7.	1	0.8	1.5
	8.	1	0.8	2.3
	9.	1	0.8	3.1
	10.	1	0.8	3.8
	11.	1	0.8	4.6
	12.	1	0.8	5.4
	13.	1	0.8	6.2
	15.	1	0.8	6.9
	17.	3	2.3	9.2
	18.	1	0.8	10.0
	19.	2	1.5	11.5
	20.	4	3.1	14.6
	21.	6	4.6	19.2
	22.	5	3.8	23.1
	23.	4	3.1	26.2
	24.	4	3.1	29.2
	25.	4	3.1	32.3
	26.	8	6.2	38.5
	27.	12	9.2	47.7
	28.	7	5.4	53.1
	29.	12	9.2	62.3
	30.	14	10.8	73.1
	31.	10	7.7	80.8
	32.	5	3.8	84.6
	33.	8	6.2	90.8
	34.	8	6.2	96.9
	35.	2	1.5	98.5
	36.	2	1.5	100.0
Total		130	100.0	

Mean	26.508	Std Err	0.557	Median	27.929
Mode	30.000	Std Dev	6.355	Variance	40.391
Kurtosis	1.355	Skewness	-1.191	Range	30.000
Minimum	6.000	Maximum	36.000		

TABLE B-5

Frequency Distribution of the Independent Variable: Instrumental Educational Values for the Male Students.

Educational Values: Instrumental Score	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	4.	1	0.8	0.8
	8.	1	0.8	1.5
	11.	1	0.8	2.3
	12.	2	1.5	3.8
	14.	1	0.8	4.5
	16.	4	3.0	7.6
	17.	3	2.3	9.8
	18.	3	2.3	12.1
	19.	5	3.8	15.9
	20.	4	3.0	18.9
	21.	8	6.1	25.0
	22.	9	6.8	31.8
	23.	7	5.3	37.1
	24.	9	6.8	43.9
	25.	4	3.0	47.0
	26.	8	6.1	53.0
	27.	8	6.1	59.1
	28.	15	11.4	70.5
	29.	10	7.6	78.0
	30.	6	4.5	82.6
	31.	6	4.5	87.1
	32.	4	3.0	90.2
	33.	5	3.8	93.9
	34.	5	3.8	97.7
	36.	3	2.3	100.0
	Total	132	100.0	

Mean	25.144	Std Err	0.513	Median	26.000
Mode	28.000	Std Dev	5.898	Variance	34.781
Kurtosis	0.746	Skewness	-0.671	Range	32.000
Minimum	4.000	Maximum	36.000		

TA

Frequency Distribution
Instrumental Educational Va

Educational Values: Instrumental Score	Code
	7.
	8.
	12.
	13.
	14.
	15.
	16.
	17.
	18.
	19.
	20.
	21.
	22.
	23.
	24.
	25.
	26.
	27.
	28.
	29.
	30.
	31.
	32.
	33.
	34.
Total	

Mean	25.185	Std Er
Mode	28.000	Std De
Kurtosis	-0.046	Skewne
Minimum	7.000	Maximu

BLE B-6

of the Independent Variable:
alues for the Female Students.

Absolute Frequency	Relative Frequency %	Cumulative Frequency %
1	0.8	0.8
1	0.8	1.5
2	1.5	3.1
2	1.5	4.6
1	0.8	5.4
2	1.5	6.9
3	2.3	9.2
3	2.3	11.5
4	3.1	14.6
6	4.6	19.2
4	3.1	22.3
5	3.8	26.2
5	3.8	30.0
8	6.2	36.2
8	6.2	42.3
4	3.1	45.4
7	5.4	50.8
8	6.2	56.9
17	13.1	70.0
5	3.8	73.8
5	3.8	77.7
8	6.2	83.8
7	5.4	89.2
8	6.2	95.4
6	4.6	100.0
130	100.0	

r	0.529	Median	26.357
v	6.032	Variance	36.384
ss	-0.641	Range	27.000
m	34.000		

TABLE B-7

Frequency Distribution of the Independent Variable: Expressive Occupational Values for the Male Students.

Occupational Values: Expressive Score	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	0.	1	0.8	0.8
	4.	1	0.8	1.5
	10.	1	0.8	2.3
	11.	1	0.8	3.0
	12.	1	0.8	3.8
	15.	1	0.8	4.5
	16.	3	2.3	6.8
	17.	4	3.0	9.8
	18.	2	1.5	11.4
	19.	2	1.5	12.9
	20.	7	5.3	18.2
	21.	12	9.1	27.3
	22.	8	6.1	33.3
	23.	8	6.1	39.4
	24.	6	4.5	43.9
	25.	5	3.8	47.7
	26.	7	5.3	53.0
	27.	5	3.8	56.8
	28.	8	6.1	62.9
	29.	4	3.0	65.9
	30.	9	6.8	72.7
	31.	7	5.3	78.0
	32.	11	8.3	86.4
	33.	7	5.3	91.7
	34.	5	3.8	95.5
	35.	3	2.3	97.7
	36.	3	2.3	100.0
Total		132	100.0	

Mean	25.553	Std Err	0.567	Median	25.929
Mode	21.000	Std Dev	6.513	Variance	42.417
Kurtosis	1.362	Skewness	-0.830	Range	36.000
Minimum	0.0	Maximum	36.000		

TABLE B-8

Frequency Distribution of the Independent Variable: Expressive Occupational Values for the Female Students.

Occupational Values: Expressive Score	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	4.	1	0.8	0.8
	9.	1	0.8	1.5
	11.	1	0.8	2.3
	12.	1	0.8	3.1
	13.	1	0.8	3.8
	16.	2	1.5	5.4
	18.	2	1.5	6.9
	19.	2	1.5	8.5
	20.	2	1.5	10.0
	21.	2	1.5	11.5
	22.	3	2.3	13.8
	23.	1	0.8	14.6
	24.	5	3.8	18.5
	25.	3	2.3	20.8
	26.	10	7.7	28.5
	27.	6	4.6	33.1
	28.	11	8.5	41.5
	29.	14	10.8	52.3
	30.	10	7.7	60.0
	31.	14	10.8	70.8
	32.	12	9.2	80.0
	33.	8	6.2	86.2
	34.	11	8.5	94.6
	35.	3	2.3	96.9
	36.	4	3.1	100.0
Total		130	100.0	

Mean	28.169	Std Err	0.503	Median	29.286
Mode	29.000	Std Dev	5.731	Variance	32.839
Kurtosis	3.160	Skewness	-1.565	Range	32.000
Minimum	4.000	Maximum	36.000		

TAB

Frequency Distribution f
Instrumental Occupational

Occupational Values: Instrumental Score	Code
	0.
	11.
	12.
	13.
	14.
	15.
	16.
	17.
	18.
	19.
	20.
	21.
	22.
	23.
	24.
	25.
	26.
	27.
	28.
	29.
	30.
	31.
	33.
	34.
	35.
	36.
Total	

Mean	24.242	Std Er
Mode	24.000	Std De
Kurtosis	1.544	Skewne
Minimum	0.0	Maximu

LE B-9

o the Independent Variable:
Values for the Male Students.

Absolute Frequency	Relative Frequency %	Cumulative Frequency %
1	0.8	0.8
1	0.8	1.5
2	1.5	3.0
3	2.3	5.3
1	0.8	6.1
4	3.0	9.1
1	0.8	9.8
1	0.8	10.6
5	3.8	14.4
5	3.8	18.2
4	3.0	21.2
9	6.8	28.0
8	6.1	34.1
10	7.6	41.7
11	8.3	50.0
7	5.3	55.3
9	6.8	62.1
11	8.3	70.5
11	8.3	78.8
8	6.1	84.6
4	3.0	87.9
3	2.3	90.2
1	0.8	95.5
2	1.5	97.0
1	0.8	97.7
3	2.3	100.0
132	100.0	

r	0.507	Median	24.500
v	5.625	Variance	33.925
ss	-0.635	Range	36.000
m	36.000		

Frequency Distribution of the Independent Variable: Instrumental Occupational Values for the Female Students.

Occupational Values: Instrumental Score	Code	Absolute Frequency	Relative Frequency %	Cumulat Frequen %
	0.	1	0.8	0.8
	6.	2	1.5	2.3
	7.	1	0.8	3.1
	8.	2	1.5	4.6
	9.	1	0.8	5.4
	10.	2	1.5	6.9
	11.	3	2.3	9.2
	12.	4	3.1	12.3
	13.	1	0.8	13.1
	14.	2	1.5	14.6
	15.	3	2.3	16.9
	16.	6	4.6	21.5
	17.	2	1.5	23.1
	18.	5	3.8	26.9
	19.	6	4.6	31.5
	20.	4	3.1	34.6
	21.	7	5.4	40.0
	22.	9	6.9	46.9
	23.	3	2.3	49.2
	24.	11	8.5	57.7
	25.	7	5.4	63.1
	26.	10	7.7	70.8
	27.	4	3.1	73.8
	28.	6	4.6	78.5
	29.	8	6.2	84.6
	30.	6	4.6	89.2
	31.	7	5.4	94.6
	32.	3	2.3	96.9
	33.	3	2.3	99.2
	35.	1	0.8	100.0
Total		130	100.0	

Mean	22.254	Std Err	0.616	Median	2
Mode	24.000	Std Dev	7.024	Variance	4
Kurtosis	-0.030	Skewness	-0.641	Range	3
Minimum	0.0	Maximum	35.000		

Frequency Distrib
Educational Oppo

Educational Opportunities	C
Poor	
Not too good	
Good	
Very good	
Total	

Mean	3.098
Mode	3.000
Kurtosis	0.817
Minimum	1.000

TABLE B-11

ution of the Independent Variable:
rtunities for the Male Students.

ode	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
1.	6	4.5	4.5
2.	14	10.6	15.2
3.	73	55.3	70.5
4.	39	29.5	100.0
	132	100.0	

Std Err	0.066	Median	3.13
Std Dev	0.760	Variance	0.57
Skewness	-0.802	Range	3.00
Maximum	4.000		

Frequency Distribution of the Independent Variable:
Educational Opportunities for the Female Students.

Educational Opportunities	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Poor	1.	9	6.9	6.9
Not too good	2.	21	16.2	23.1
Good	3.	60	46.2	69.2
Very good	4.	40	30.8	100.0
Total		130	100.0	

Mean	3.008	Std Err	0.076	Median	3.08
Mode	3.000	Std Dev	0.867	Variance	0.75
Kurtosis	-0.102	Skewness	-0.667	Range	3.00
Minimum	1.000	Maximum	4.000		

Frequency Distribu
Occupational Oppo

Occupational Opportunities	Co
Poor	
Not too good	
Good	
Very good	
Total	

Mean	2.947
Mode	3.000
Kurtosis	-0.223
Minimum	1.000

TABLE B-13

ution of the Independent Variable:
ortunities for the Male Students.

ode	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
1.	12	9.1	9.1
2.	21	15.9	25.0
3.	61	46.2	71.2
4.	38	28.8	100.0
	132	100.0	

Std Err	0.079	Median	3.041
Std Dev	-.902	Variance	0.814
Skewness	-0.655	Range	3.000
Maximum	4.000		

TABLE B-14

Frequency Distribution of the Independent Variable:
Occupational Opportunities for the Female Students.

Occupational Opportunities	Code	Absolute Frequency	Relative Frequency %	Cumul Frequ %
Poor	1.	11	8.5	8.
Not too good	2.	32	24.6	33.
Good	3.	67	51.5	84.
Very good	4.	20	15.4	100.
Total		130	100.0	

Mean	2.738	Std Err	0.072	Median	
Mode	3.000	Std Dev	0.822	Variance	
Kurtosis	-0.204	Skewness	-0.416	Range	
Minimum	1.000	Maximum	4.000		

TABLE B-15

Frequency Distribution of the Independent Variable:
Father's Occupation for the Male Students.

Father's Occupation	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	27.	1	0.8	0.8
	29.	4	3.0	3.8
	30.	15	11.4	15.2
	31.	4	3.0	18.2
	32.	5	3.8	22.0
	33.	11	8.3	30.3
	34.	4	3.0	33.3
	35.	15	11.4	44.7
	37.	3	2.3	47.0
	38.	6	4.5	51.5
	40.	7	5.3	56.8
	41.	7	5.3	62.1
	43.	3	2.3	64.4
	44.	11	8.3	72.7
	45.	3	2.3	75.0
	46.	2	1.5	76.5
	47.	1	0.8	77.3
	49.	3	2.3	79.5
	52.	3	2.3	81.8
	53.	1	0.8	82.6
	54.	4	3.0	85.6
	55.	6	4.5	90.2
	59.	1	0.8	90.9
	60.	1	0.8	91.7
	61.	1	0.8	92.4
	62.	1	0.8	93.2
	66.	1	0.8	93.9
	69.	1	0.8	94.7
	71.	2	1.5	96.2
	74.	1	0.8	97.0
	75.	2	1.5	98.5
	76.	2	1.5	100.0
Total		132	100.0	

Mean	41.598	Std Err	1.028	Median	38.167
Mode	30.000	Std Dev	11.811	Variance	139.509
Kurtosis	1.158	Skewness	1.292	Range	49.000
Minimum	27.000	Maximum	76.000		

TABLE B-16

Frequency Distribution of the Independent Variable:
Father's Occupation for the Female Students.

Father's Occupation	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	28.	1	0.8	0.8
	29.	4	3.1	3.8
	30.	12	9.2	13.1
	31.	6	4.6	17.7
	32.	4	3.1	20.8
	33.	12	9.2	30.0
	34.	6	4.6	34.6
	35.	11	8.5	43.1
	37.	1	0.8	43.8
	38.	2	1.5	45.4
	40.	9	6.9	52.3
	41.	10	7.7	60.0
	43.	4	3.1	63.1
	44.	13	10.0	73.1
	45.	6	4.6	77.7
	46.	4	3.1	80.8
	47.	2	1.5	82.3
	52.	3	2.3	84.6
	54.	3	2.3	86.9
	55.	4	3.1	90.0
	58.	1	0.8	90.8
	65.	3	2.3	93.1
	66.	1	0.8	93.8
	68.	1	0.8	94.6
	69.	2	1.5	96.2
	71.	1	0.8	96.9
	74.	2	1.5	98.5
	75.	2	1.5	100.0
Total		130	100.0	

Mean	41.615	Std Err	1.006	Median	40.167
Mode	44.000	Std Dev	11.465	Variance	131.447
Kurtosis	1.246	Skewness	1.308	Range	47.000
Minimum	28.000	Maximum	75.000		

TABLE B-17

Frequency Distribution of the I
Father's Education for the

Father's Education	Code	Absolut Frequen
Some grade school	1.	31
Completed grade school	2.	14
Some high school	3.	41
Completed high school	4.	14
Completed high school and had other training	5.	17
Some university	6.	8
University graduate	7.	3
Graduate degree	8.	4
Total		132

Mean	3.212	Std Err	
Mode	3.000	Std Dev.	
Kurtosis	-0.046	Skewness	
Minimum	1.000	Maximum	

ndependent Variable:
Male Students.

e cy	Relative Frequency %	Cumulative Frequency %
	23.5	23.5
	10.6	34.1
	31.1	65.2
	10.6	75.8
	12.9	88.6
	6.1	94.7
	2.3	97.0
	3.0	100.0
	100.0	

0.158	Median	3.012
1.820	Variance	3.313
0.666	Range	7.000
8.000		

TABLE B-18

Frequency Distribution of the Independent Variable: Father's Education for the Female Students.

Father's Education	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Some grade school	1.	29	22.3	22.3
Completed grade school	2.	20	15.4	37.7
Some high school	3.	42	32.3	70.0
Completed high school	4.	11	8.5	78.5
Completed high school and had other training	5.	13	10.0	88.5
Some university	6.	5	3.8	92.3
University graduate	7.	7	5.4	97.7
Graduate degree	8.	3	2.3	100.0
Total		130	100.0	

Mean	3.131	Std Err	0.160	Median	2.881
Mode	3.000	Std Dev	1.823	Variance	3.324
Kurtosis	0.156	Skewness	0.848	Range	7.000
Minimum	1.000	Maximum	8.000		

TABLE B-19

Frequency Distribution of the Independent Variable:
Mother's Education for the Male Students.

Mother's Education	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Some grade school	1.	13	9.8	9.8
Completed grade school	2.	21	15.9	25.8
Some high school	3.	47	35.6	61.4
Completed high school	4.	16	12.1	73.5
Completed high school and had other training	5.	27	20.5	93.9
University Graduate	7.	6	4.5	98.5
Graduate Degree	8.	2	1.5	100.0
Total		132	100.0	

Mean	3.432	Std Err	0.136	Median	3.181
Mode	3.000	Std Dev	1.559	Variance	2.430
Kurtosis	0.384	Skewness	0.650	Range	7.000
Minimum	1.000	Maximum	8.000		

TAB

Frequency Distribution
Mother's Education

Mother's Education	Code
Some grade school	1.
Completed grade school	2.
Some high school	3.
Completed high school	4.
Completed high school and had other training	5.
Some university	6.
University graduate	7.
Total	

Mean	3.262	Std E
Mode	3.000	Std D
Kurtosis	-0.379	Skewn
Minimum	1.000	Maxim

BLE B-20

of the Independent Variable:
for the Female Students.

Absolute Frequency	Relative Frequency %	Cumulativ Frequency %
20	15.4	15.4
17	13.1	28.5
45	34.6	63.1
15	11.5	74.6
27	20.8	95.4
2	1.5	96.9
4	3.1	100.0
130	100.0	

rr	0.132	Median	3.1
ev	1.507	Variance	2.2
ess	0.303	Range	6.0
um	7.000		

TABLE B-21

Frequency Distribution of the Independent Variable: Family Size for the Male Students.

Family Size	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	1.	2	1.5	1.5
	2.	22	16.7	18.2
	3.	31	23.5	41.7
	4.	35	26.5	68.2
	5.	22	16.7	84.8
	6.	13	9.8	94.7
	7.	4	3.0	97.7
	8.	3	2.3	100.0
Total		132	100.0	

Mean	3.932	Std Err	0.130	Median	3.814
Mode	4.000	Std Dev	1.499	Variance	2.247
Kurtosis	0.031	Skewness	0.518	Range	7.000
Minimum	1.000	Maximum	8.000		

TABLE B-22

Frequency Distribution of the Independent Variable: Family Size for the Female Students.

Family Size	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	1.	7	5.4	5.4
	2.	22	16.9	22.3
	3.	43	33.1	55.4
	4.	27	20.8	76.2
	5.	10	7.7	83.6
	6.	7	5.4	89.2
	7.	4	3.1	92.3
	8.	5	3.8	96.2
	9.	5	3.8	100.0
Total		130	100.0	

Mean	3.792	Std Err	0.167	Median	3.337
Mode	3.000	Std Dev	1.903	Variance	3.623
Kurtosis	0.900	Skewness	1.145	Range	8.000
Minimum	1.000	Maximum	9.000		

TABLE B-23

Frequency Distribution of the Independent Variable: Father's Educational Encouragement for the Male Students.

Parental Encouragement: Education: Father	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
No encouragement	1.	25	18.9	18.9
Some encouragement	2.	29	22.0	40.9
Strong encouragement	3.	78	59.1	100.0
Total		132	100.0	

Mean	2.402	Std Err	0.069	Median	2.654
Mode	3.000	Std Dev	0.790	Variance	0.624
Kurtosis	-0.858	Skewness	-0.849	Range	2.000
Minimum	1.000	Maximum	3.000		

TABLE B-24

Frequency Distribution of the Independent Variable: Father's Educational Encouragement for the Female Students.

Parental Encouragement: Education: Father	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
No encouragement	1.	19	14.6	14.6
Some encouragement	2.	47	36.2	50.8
Strong encouragement	3.	64	49.2	100.0
Total		130	100.0	

Mean	2.346	Std Err	0.063	Median	2.479
Mode	3.000	Std Dev	0.723	Variance	0.523
Kurtosis	-0.848	Skewness	-0.634	Range	2.000
Minimum	1.000	Maximum	3.000		

TABLE B-25

Frequency Distribution of the Independent Variable: Mother's Educational Encouragement for the Male Students.

Parental Encouragement: Education: Mother	Code	Absolute Frequency	Relative Frequency %	Cumulat Frequer %
No encouragement	1.	12	9.1	9.1
Some encouragement	2.	36	27.3	36.4
Strong encouragement	3.	84	63.6	100.0
Total		132	100.0	

Mean	2.545	Std Err	0.057	Median	
Mode	3.000	Std Dev	0.658	Variance	
Kurtosis	0.136	Skewness	-1.149	Range	
Minimum	1.000	Maximum	3.000		

TABLE B-26

Frequency Distribution of the Independent Variable:
Mother's Educational Encouragement for the Female Students.

Parental Encouragement: Education: Mother	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
No encouragement	1.	9	6.9	6.9
Some encouragement	2.	42	32.3	39.2
Strong encouragement	3.	79	60.8	100.0
Total		130	100.0	

Mean	2.538	Std Err	0.055	Median	2.677
Mode	3.000	Std Dev	0.624	Variance	0.390
Kurtosis	0.001	Skewness	-1.020	Range	2.000
Minimum	1.000	Maximum	3.000		

TABLE B-27

Frequency Distribution of the I
Father's Occupational Encouragement

Parental Encouragement: Occupation: Father	Code	Absolut Frequen
No encouragement	1.	35
Some encouragement	2.	42
Strong encouragement	3.	55
Total		132

Mean	2.152	Std Err	
Mode	3.000	Std Dev	
Kurtosis	-1.437	Skewness	
Minimum	1.000	Maximum	

ndependent Variable:
for the Male Students.

e cy	Relative Frequency %	Cumulative Frequency %
	26.5	26.5
	31.8	58.3
	41.7	100.0
	100.0	

0.071	Median	2.238
0.815	Variance	0.664
-0.286	Range	2.000
3.000		

TABLE B-28

Frequency Distribution of the Independent Variable: Father's Occupational Encouragement for the Female Students.

Parental Encouragement: Occupation: Father	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
No encouragement	1.	31	23.8	23.8
Some encouragement	2.	33	25.4	49.2
Strong encouragement	3.	66	50.8	100.0
Total		130	100.0	

Mean	2.269	Std Err	0.072	Median	2.515
Mode	3.000	Std Dev	0.824	Variance	0.679
Kurtosis	-1.319	Skewness	-0.539	Range	2.000
Minimum	1.000	Maximum	3.000		

TABLE B-29

Frequency Distribution of the Independent Variable: Mother's Occupational Encouragement for the Male Students.

Parental Encouragement: Occupation: Mother	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
No encouragement	1.	28	21.2	21.2
Some encouragement	2.	35	26.5	47.7
Strong encouragement	3.	69	52.3	100.0
Total		132	100.0	

Mean	2.311	Std Err	0.070	Median	2.543
Mode	3.000	Std Dev	0.802	Variance	0.643
Kurtosis	-1.167	Skewness	-0.623	Range	2.000
Minimum	1.000	Maximum	3.000		

TABLE B-30

Frequency Distribution of the Independent Variable: Mother's Occupational Encouragement for the Female Students.

Parental Encouragement: Occupation: Mother	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
No encouragement	1.	19	14.6	14.6
Some encouragement	2.	37	28.5	43.1
Strong encouragement	3.	74	56.9	100.0
Total		130	100.0	

Mean	2.423	Std Err	0.064	Median	2.622
Mode	3.000	Std Dev	0.735	Variance	0.541
Kurtosis	-0.645	Skewness	-0.859	Range	2.000
Minimum	1.000	Maximum	3.000		

TABLE B-31

Frequency Distribution of the Independent Variable:
Program in School for the Male Students.

Program in School	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
General course	0.	60	45.5	45.5
University entrance	1.	72	54.5	100.0
Total		132	100.0	

Mean	.205	Std Err	0.080	Median	.583
Mode	1.000	Std Dev	0.922	Variance	0.851
Kurtosis	-.706	Skewness	-0.420	Range	1.000
Minimum	0.000	Maximum	1.000		

TABLE B-32

Frequency Distribution of the Independent Variable: Program in School for the Female Students.

Program in School	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Commercial	1.	28	21.5	21.5
General course	2.	28	21.5	43.1
University entrance	3.	74	56.9	100.0
	Total	130	100.0	

Mean	3.023	Std Err	0.109	Median	3.622
Mode	3.000	Std Dev	1.248	Variance	1.558
Kurtosis	-1.220	Skewness	-0.725	Range	2.000
Minimum	1.000	Maximum	3.000		

TABLE B-33

Frequency Distribution of the Independent Variable: Average Marks for the Male Students.

Average Marks: Grade 10 and 11	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Mostly D's	3.	1	0.8	0.8
Mixed D's and C's	4.	15	11.4	12.1
Mostly C's	5.	30	22.7	34.8
Mixed C's and B's	6.	60	45.5	80.3
Mostly B's	7.	14	10.6	90.9
Mixed B's and A's	8.	9	6.8	97.7
Mostly A's	9.	3	2.3	100.0
Total		132	100.0	

Mean	5.833	Std Err	0.100	Median	5.833
Mode	6.000	Std Dev	1.147	Variance	1.316
Kurtosis	0.506	Skewness	0.394	Range	6.000
Minimum	3.000	Maximum	9.000		

TABLE B-34

Frequency Distribution of the Independent Variable:
Average Marks for the Female Students.

Average marks: Grade 10 and 11	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Mixed D's and C's	4.	5	3.8	3.8
Mostly C's	5.	10	7.7	11.5
Mixed C's and B's	6.	67	51.5	63.1
Mostly B's	7.	17	13.1	76.2
Mixed B's and A's	8.	26	20.0	96.2
Mostly A's	9.	5	3.8	100.0
Total		130	100.0	

Mean	6.492	Std Err	0.099	Median	6.246
Mode	6.000	Std Dev	1.129	Variance	1.275
Kurtosis	-0.176	Skewness	0.282	Range	5.000
Minimum	4.000	Maximum	9.000		

TABLE B-35

Frequency Distribution of the Independent Variable: Mental Ability for the Male Students.

Mental Ability	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	0.	24	18.2	18.2
	1.	20	15.2	33.3
	2.	26	19.7	53.0
	3.	34	25.8	78.8
	4.	28	21.2	100.0
Total		132	100.0	

Mean	2.167	Std Err	0.122	Median	2.346
Mode	3.000	Std Dev	1.404	Variance	1.972
Kurtosis	-1.223	Skewness	-0.234	Range	4.000
Minimum	0.0	Maximum	4.000		

TABLE B-36

Frequency Distribution of the Independent Variable:
Mental Ability for the Female Students.

Mental Ability	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	0.	25	19.2	19.2
	1.	19	14.6	33.8
	2.	21	16.2	50.0
	3.	25	19.2	69.2
	4.	40	30.8	100.0
Total		130	100.0	

Mean	2.277	Std Err	0.132	Median	2.500
Mode	4.000	Std Dev	1.510	Variance	2.279
Kurtosis	-1.360	Skewness	-0.277	Range	4.000
Minimum	0.0	Maximum	4.000		

TABLE B-37

Frequency Distribution of the Independent Variable:
Community Size for the Male Students.

Community Size	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Pine Falls	1.	18	13.6	13.6
Lynn Lake	2.	6	4.5	18.2
Red Lake	3.	23	17.4	35.6
Flin Flon	4.	62	47.0	82.6
Thompson	5.	23	17.4	100.0
Total		132	100.0	

Mean	3.500	Std Err	0.107	Median	3.806
Mode	4.000	Std Dev	1.233	Variance	1.519
Kurtosis	-0.108	Skewness	-0.907	Range	4.000
Minimum	1.000	Maximum	5.000		

TABLE B-38

Frequency Distribution of the Independent Variable: Community Size for the Female Students.

Community Size	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Pine Falls	1.	15	11.5	11.5
Lynn Lake	2.	5	3.8	15.4
Red Lake	3.	26	20.0	35.4
Flin Flon	4.	63	48.5	83.8
Thompson	5.	21	16.2	100.0
	Total	130	100.0	

Mean	3.538	Std Err	0.102	Median	3.802
Mode	4.000	Std Dev	1.162	Variance	1.351
Kurtosis	0.273	Skewness	-0.982	Range	4.000
Minimum	1.000	Maximum	5.000		

TABLE B-39

Frequency Distribution of the Independent Variable: Community Isolation for the Male Students.

Community Isolation	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Pine Falls	1.	18	13.6	13.6
Flin Flon	2.	62	47.0	60.6
Thompson	3.	23	17.4	78.0
Red Lake	4.	23	17.4	95.5
Lynn Lake	5.	6	4.5	100.0
Total		132	100.0	

Mean	2.523	Std Err	0.093	Median	2.274
Mode	2.000	Std Dev	1.073	Variance	1.152
Kurtosis	-0.433	Skewness	0.598	Range	4.000
Minimum	1.000	Maximum	5.000		

TABLE B-40

Frequency Distribution of the Independent Variable:
Community Isolation for the Female Students.

Community Isolation	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Pine Falls	1.	15	11.5	11.5
Flin Flon	2.	63	48.5	60.0
Thompson	3.	21	16.2	76.2
Red Lake	4.	26	20.0	96.2
Lynn Lake	5.	5	3.8	100.0
Total		130	100.0	

Mean	2.562	Std Err	0.093	Median	2.294
Mode	2.000	Std Dev	1.057	Variance	1.116
Kurtosis	-0.567	Skewness	0.557	Range	4.000
Minimum	1.000	Maximum	5.000		

TABLE B-41

Frequency Distribution of the Independent Variable: Geographical Mobility Orientation for the Male Students.

Geographical Mobility Orientation	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Yes	0.	36	27.3	27.3
No	1.	96	72.7	100.0
Total		132	100.0	

Mean	.727	Std Err	0.039	Median	.813
Mode	1.000	Std Dev	0.447	Variance	0.200
Kurtosis	-0.949	Skewness	-1.082	Range	1.000
Minimum	0.000	Maximum	1.000		

TABLE B-42

Frequency Distribution of the Independent Variable: Geographical Mobility Orientation for the Female Students.

Geographical Mobility Orientation	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
Yes	0.	45	34.6	34.6
No	1.	85	65.4	100.0
Total		130	100.0	

Mean	.654	Std Err	0.042	Median	.735
Mode	1.000	Std Dev	0.478	Variance	0.228
Kurtosis	-.597	Skewness	-0.554	Range	1.000
Minimum	0.000	Maximum	1.000		

TABLE B-43

Frequency Distribution of the Dependent Variable: Level of Occupational Consistency at Time One for the Male Students.

Occupational Consistency Score: Time One	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	-10.	1	0.8	0.8
	- 8.	1	0.8	1.5
	- 7.	1	0.8	2.3
	- 6.	1	0.8	3.0
	- 5.	1	0.8	3.8
	- 4.	2	1.5	5.3
	- 3.	4	3.0	8.3
	- 2.	1	0.8	9.1
	- 1.	4	3.0	12.1
	0.	6	4.5	16.7
	1.	7	5.3	22.0
	2.	6	4.5	26.5
	3.	9	6.8	33.3
	4.	5	3.8	37.1
	5.	5	3.8	40.9
	6.	7	5.3	46.2
	7.	4	3.0	49.2
	8.	8	6.1	55.3
	9.	6	4.5	59.8
	10.	7	5.3	65.2
	11.	9	6.8	72.0
	12.	6	4.5	76.5
	13.	6	4.5	81.1
	14.	5	3.8	84.8
	15.	2	1.5	86.4
	16.	5	3.8	90.2
	17.	2	1.5	91.7
	18.	2	1.5	93.2
	19.	2	1.5	94.7
	20.	2	1.5	96.2
	21.	1	0.8	97.0
	23.	1	0.8	97.7
	24.	1	0.8	98.5
	25.	2	1.5	100.0
Total		132	100.0	

Mean	7.439	Std Err	0.624	Median	7.625
Mode	3.000	Std Dev	7.167	Variance	51.362
Kurtosis	-0.231	Skewness	0.144	Range	35.000
Minimum	-10.000	Maximum	25.000		

TABLE B-44

Frequency Distribution of the Dependent Variable:
Level of Occupational Consistency at Time One for the Female Students.

Occupational Consistency Score: Time One	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	-6.	2	1.5	1.5
	-5.	1	0.8	2.3
	-4.	2	1.5	3.8
	-2.	5	3.8	7.7
	-1.	2	1.5	9.2
	0.	2	1.5	10.8
	1.	3	2.3	13.1
	2.	6	4.6	17.7
	3.	6	4.6	22.3
	4.	8	6.2	28.5
	5.	7	5.4	33.8
	6.	9	6.9	40.8
	7.	7	5.4	46.2
	8.	12	9.2	55.4
	9.	7	5.4	60.8
	10.	7	5.4	66.2
	11.	6	4.6	70.8
	12.	7	5.4	76.2
	13.	10	7.7	83.8
	14.	3	2.3	86.2
	15.	2	1.5	87.7
	16.	2	1.5	89.2
	17.	2	1.5	90.8
	18.	2	1.5	92.3
	20.	4	3.1	95.4
	22.	1	0.8	96.2
	23.	1	0.8	96.9
	25.	2	1.5	98.5
	26.	1	0.8	99.2
	27.	1	0.8	100.0
Total		130	100.0	

Mean	8.285	Std Err	0.587	Median	7.917
Mode	8.000	Std Dev	6.695	Variance	44.825
Kurtosis	0.372	Skewness	0.415	Range	33.000
Minimum	-6.000	Maximum	27.000		

TABLE B-45

Frequency Distribution of the Dependent Variable: Level of Occupational Consistency at Time Two for the Male Students.

Occupational Consistency Score: Time Two	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	-10.	2	1.5	1.5
	- 6.	1	0.8	2.3
	- 5.	4	3.0	5.3
	- 4.	2	1.5	6.8
	- 3.	5	3.8	10.6
	- 2.	3	2.3	12.9
	- 1.	3	2.3	15.2
	0.	5	3.8	18.9
	1.	2	1.5	20.5
	2.	3	2.3	22.7
	3.	3	2.3	25.0
	4.	6	4.5	29.5
	5.	9	6.8	36.4
	6.	10	7.6	43.9
	7.	6	4.5	48.5
	8.	7	5.3	53.8
	9.	7	5.3	59.1
	10.	10	7.6	66.7
	11.	6	4.5	71.2
	12.	8	6.1	77.3
	13.	5	3.8	81.1
	14.	1	0.8	81.8
	15.	6	4.5	86.4
	16.	2	1.5	87.9
	17.	6	4.5	92.4
	18.	2	1.5	93.9
	19.	3	2.3	96.2
	22.	1	0.8	97.0
	23.	3	2.3	99.2
	24.	1	0.8	100.0
	Total	132	100.0	

Mean	7.591	Std Err	0.625	Median	7.786
Mode	6.000	Std Dev	7.175	Variance	51.495
Kurtosis	-0.245	Skewness	-0.057	Range	34.000
Minimum	-10.000	Maximum	24.000		

TABLE B-46

Frequency Distribution of the Dependent Variable:
Level of Occupational Consistency at Time Two for the Female Students.

Occupational Consistency Score: Time Two	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	-9.	1	0.8	0.8
	-4.	3	2.3	3.1
	-1.	1	0.8	3.8
	0.	5	3.8	7.7
	1.	3	2.3	10.0
	2.	4	3.1	13.1
	3.	6	4.6	17.7
	4.	3	2.3	20.0
	5.	9	6.9	26.9
	6.	3	2.3	29.2
	7.	7	5.4	34.6
	8.	8	6.2	40.8
	9.	7	5.4	46.2
	10.	6	4.6	50.8
	11.	2	1.5	52.3
	12.	11	8.5	60.8
	13.	8	6.2	66.9
	14.	8	6.2	73.1
	15.	2	1.5	74.6
	16.	6	4.6	79.2
	17.	7	5.4	84.6
	18.	2	1.5	86.2
	19.	5	3.8	90.0
	20.	3	2.3	92.3
	21.	2	1.5	93.8
	22.	3	2.3	96.2
	23.	1	0.8	96.9
	24.	2	1.5	98.5
	25.	1	0.8	99.2
	28.	1	0.8	100.0
Total		130	100.0	

Mean	10.431	Std Err	0.613	Median	10.333
Mode	12.000	Std Dev	6.985	Variance	48.790
Kurtosis	-0.279	Skewness	-0.021	Range	37.000
Minimum	-9.000	Maximum	28.000		

TABLE B-47

Frequency Distribution of the Dependent Variable;
Level of Occupational Expectation Congruency for the Male Students.

Occupational Expectation Congruency Score	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	-18.	2	1.5	1.5
	-16.	2	1.5	3.0
	-15.	4	3.0	6.1
	-14.	2	1.5	7.6
	-13.	3	2.3	9.8
	-12.	1	0.8	10.6
	-11.	2	1.5	12.1
	-10.	2	1.5	13.6
	- 9.	4	3.0	16.7
	- 8.	3	2.3	18.9
	- 7.	6	4.5	23.5
	- 6.	1	0.8	24.2
	- 5.	6	4.5	28.8
	- 4.	4	3.0	31.8
	- 3.	5	3.8	35.6
	- 2.	10	7.6	43.2
	- 1.	5	3.8	47.0
	0.	12	9.1	56.1
	1.	10	7.6	63.6
	2.	9	6.8	70.5
	3.	8	6.1	76.5
	4.	4	3.0	79.5
	5.	5	3.8	83.3
	6.	4	3.0	86.4
	7.	2	1.5	87.9
	8.	2	1.5	89.4
	9.	2	1.5	90.9
	10.	2	1.5	92.4
	11.	2	1.5	93.9
	12.	1	0.8	94.7
	13.	2	1.5	96.2
	15.	1	0.8	97.0
	17.	1	0.8	97.7
	19.	1	0.8	98.5
	20.	1	0.8	99.2
	24.	1	0.8	100.0
	Total	132	100.0	

Mean	7.780	Std Err	0.690	Median	-0.167
Mode	0.0	Std Dev	7.926	Variance	62.814
Kurtosis	0.503	Skewness	0.195	Range	42.000
Minimum	-18.000	Maximum	24.000		

TABLE B-48

Frequency Distribution of the Dependent Variable:
Level of Occupational Expectation Congruency for the Female Students.

Occupational Expectation Congruency Score	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	-22.	1	0.8	0.8
	-21.	1	0.8	1.5
	-17.	1	0.8	2.3
	-15.	3	2.3	4.6
	-14.	2	1.5	6.2
	-13.	2	1.5	7.7
	-12.	3	2.3	10.0
	-11.	4	3.1	13.1
	-10.	3	2.3	15.4
	- 9.	2	1.5	16.9
	- 8.	2	1.5	18.5
	- 7.	5	3.8	22.3
	- 6.	4	3.1	25.4
	- 5.	6	4.6	30.0
	- 4.	6	4.6	34.6
	- 3.	9	6.9	41.5
	- 2.	8	6.2	47.7
	- 1.	11	8.5	56.2
	0.	7	5.4	61.5
	1.	5	3.8	65.4
	2.	6	4.6	70.0
	3.	3	2.3	72.3
	4.	9	6.9	79.2
	5.	5	3.8	83.1
	6.	3	2.3	85.4
	7.	4	3.1	88.5
	8.	4	3.1	91.5
	9.	2	1.5	93.1
	10.	4	3.1	96.2
	11.	1	0.8	96.9
	12.	1	0.8	97.7
	13.	1	0.8	98.5
	14.	1	0.8	99.2
	16.	1	0.8	100.0
Total		130	100.0	

Mean	7.392	Std Err	0.644	Median	-1.227
Mode	-1.000	Std Dev	7.348	Variance	53.992
Kurtosis	-0.008	Skewness	-0.247	Range	38.000
Minimum	-22.000	Maximum	16.000		

TABLE B-49

Frequency Distribution of the Dependent Variable: Level of Occupational Aspiration Congruency for the Male Students.

Occupational Aspiration Congruency Score	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	-20.	1	0.8	0.8
	-17.	1	0.8	1.5
	-16.	1	0.8	2.3
	-14.	1	0.8	3.0
	-13.	1	0.8	3.8
	-12.	1	0.8	4.5
	-11.	1	0.8	5.3
	-10.	4	3.0	8.3
	- 9.	6	4.5	12.9
	- 8.	4	3.0	15.9
	- 7.	3	2.3	18.2
	- 6.	4	3.0	21.2
	- 5.	5	3.8	25.0
	- 4.	7	5.3	30.3
	- 3.	8	6.1	36.4
	- 2.	5	3.8	40.2
	- 1.	7	5.3	45.5
	0.	11	8.3	53.8
	1.	9	6.8	60.6
	2.	11	6.3	68.9
	3.	10	7.6	76.5
	4.	9	6.8	83.3
	5.	5	3.8	87.1
	6.	2	1.5	88.6
	7.	3	2.3	90.9
	8.	5	3.8	94.7
	9.	1	0.8	95.5
	10.	1	0.8	96.2
	11.	1	0.8	97.0
	13.	1	0.8	97.7
	15.	1	0.8	98.5
	16.	2	1.5	100.0
Total		132	100.0	

Mean	6.629	Std Err	0.561	Median	0.045
Mode	0.0	Std Dev	6.451	Variance	41.609
Kurtosis	0.510	Skewness	-0.171	Range	36.000
Minimum	-20.000	Maximum	16.000		

TABLE B-50

Frequency Distribution of the Dependent Variable: Level of Occupational Aspiration Congruency for the Female Students.

Occupational Aspiration Congruency Score	Code	Absolute Frequency	Relative Frequency %	Cumulative Frequency %
	-23.	1	0.8	0.8
	-20.	1	0.8	1.5
	-15.	2	1.5	3.1
	-12.	1	0.8	3.8
	- 9.	3	2.3	6.2
	- 8.	1	0.8	6.9
	- 7.	4	3.1	10.0
	- 6.	3	2.3	12.3
	- 5.	7	5.4	17.7
	- 4.	8	6.2	23.8
	- 3.	3	2.3	26.2
	- 2.	9	6.9	33.1
	- 1.	6	4.6	37.7
	0.	11	8.5	46.2
	1.	14	10.8	56.9
	2.	10	7.7	64.6
	3.	8	6.2	70.8
	4.	8	4.6	75.4
	5.	6	4.6	80.0
	6.	5	3.8	83.8
	7.	2	1.5	85.4
	8.	4	3.1	88.5
	9.	7	5.4	93.8
	10.	3	2.3	96.2
	14.	2	1.5	97.7
	16.	1	0.8	98.5
	19.	1	0.8	99.2
	20.	1	0.8	100.0
Total		130	100.0	

Mean	6.754	Std Err	0.579	Median	0.857
Mode	1.000	Std Dev	6.597	Variance	43.520
Kurtosis	1.898	Skewness	-0.270	Range	43.000
Minimum	-23.000	Maximum	20.000		